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"I found the answer in a Finch Sanitary advertisement"

Architects and builders who read the Finch advertisements are constantly congratulating themselves on their good sense.
Finch advertising solves so many of their problems by introducing them to the Finch Specialist Divisions, of which there are no fewer than *fifteen*. These teams of experts in the many aspects of building are qualified by knowledge and experience to offer not only the most comprehensive supply service in the country, but an enthusiastic personal attention to their clients' requirements, however unusual.

The Finch Sanitary Division

Sanitary equipment on the Industrial scale is a speciality of the Finch Organization. For new contracts or replacements, they supply all that is newest and best in materials and hygienic design. Finch equipment has been specified for many important public contracts — schools, factories, hospitals and, to name only one, the Earls Court Exhibition Buildings. Bring *your* sanitary equipment problem to the Finch Organization and experience all the advantages of a really co-operative service.

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The Sanitary Division of

THE Finch ORGANIZATION

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The Banking Hall

FAROMAT *completes the picture*

FAROMAT is the smoothest, most distinctive wall decoration for the essential dignity of Bank premises. The lovely matt surface, in quiet unobtrusive colours, creates an atmosphere of spaciousness and light, congenial to work in and an excellent background for the conduct of efficient business. And incidentally, all colours are intermixable.

FAROMAT is the interior decorator's ideal finish. There is nothing fugitive about FAROMAT charm. All the listed shades are fast to light, and washable. It dries with an exquisite velvety surface.

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FAROMAT has an "After-Flow" unprecedented with this type of paint.

FAROMAT is particularly suitable for use in such places as MUNICIPAL BUILDINGS, HOSPITALS, SCHOOLS, CHURCHES, HOTELS and CLUBS, as well as PRIVATE HOUSES.

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VITREOUS CHINA

For schools, hospitals, factories and public buildings

"Standard" Sanitary Appliances made of VITREOUS CHINA are completely non-absorbent, cannot craze and will not discolour or stain. They will remain perfectly sanitary under the most wearing conditions and are eminently suitable for installations subjected to hard usage.

Schools, hospitals, factories and public buildings all over the country are being assured of the highest standards of hygiene and durability in their washrooms by the installation of "Standard" Sanitary Appliances. *The illustration shows a range of Surrey Lavatories fitted on wall brackets.*

IDEAL-Standard
Foremost for heating and sanitary equipment

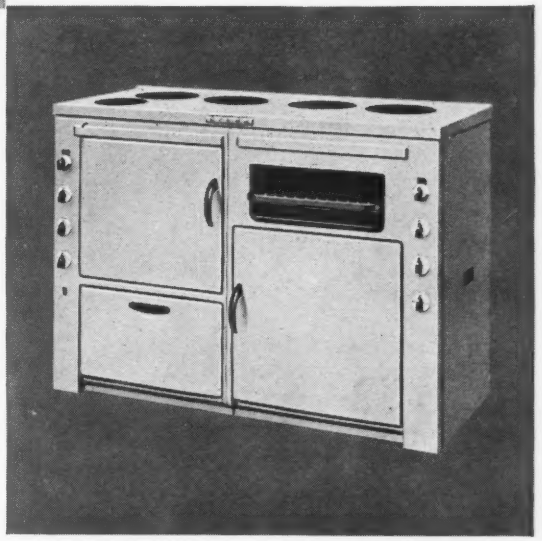
IDEAL BOILERS & RADIATORS LTD., IDEAL WORKS, HULL

140

lunch for 6—16, or was it 60?

In the Directors' dining-room kitchen at Tate and Lyle's the numbers vary from day to day. The kitchen staff do not worry, however, as their Creda Restaurant Range can be relied upon to cope with any occasion, big or small

The Creda Restaurant Range is really flexible. It can cater for six, sixteen or sixty—yet it's still economical at both ends of the scale. Ideal, in fact, for all small hotels, restaurants, canteens, schools and so on



HC 2899
CREDA RESTAURANT RANGE

- **Two ovens—one large, one small**
- **Separate grill**
- **Self contained, separately heated warming drawer**
- **Five boiling plates**
- **Steel and cast iron construction**

Catalogue No. HC 2899 *Delivery ex-stock*

Did you know about our Kitchen Planning and Installation Service? Some of the finest kitchens in the country are designed by this team. We shall be glad to tell you more about it if you write to

reduce overheads and labour costs with Creda

heavy duty cooking equipment

made by the house of Simplex

Simplex Electric Co Ltd Oldbury Birmingham & Branches (Electrical engineers for over 50 years) A Tr COMPANY

A. R. Whitear drew this impression of the welding of metal window frames. It forms part of a series, "Window Makers at Work" by artists commissioned by Williams & Williams Ltd.

Two thousand four hundred times a day
Mary Brown sends eight thousand amperes through the
electrodes of her butt welder. Each time, she makes
a joint in a metal window frame that is
dead true and capable of withstanding
a breaking strain of more than two tons.
Mary and her fellow workers are highly
skilled in the use of the £1,000,000
window-making plant at Williams & Williams'
factories. They make good windows. And no
Williams & Williams work is considered a complete
success unless the Architect, seeing the windows
in his building, says "Now get busy on my next job."

W I L L I A M S & W I L L I A M S

Metal Window and Door Manufacturers

RELIANCE WORKS · CHESTER

A.R. WHITEAR

Reproduced from: THE BOOK OF ENGLISH TRADES & *Library of the Useful Arts*, 1821

THE MASON

With sharp and practised strokes, the master-mason carves the quarried stone. Tools of his trade, the square and compasses are symbols of his life. Working towards perfection, his artistry in stone and marble will live through aeons of recorded time . . .

AND CRAFTSMANSHIP LIVES ON *With the coming of the Industrial Revolution and the development of machinery, the era of the lone craftsman passed into history. No longer was one man single master of his trade. Instead, the work was divided among specialists, each one a craftsman in his own particular line. To-day, the individual is an expert, whose specialised skill is an essential part of the whole.*

★ ★

AT CELLON we believe in the essence of craftsmanship. For example, after a new decorative finish has been produced by our laboratory specialists, it is tested by experts who examine every Cellon product under the conditions of use for which it is intended. Like the mason of old, whose skilled chisel inspired cold blocks of stone with all the warmth of beauty, we always strive for perfection in our finished work.

The existing range of Cerrux Decorative Paints includes Gloss, Satin and Matt Finishes, Flat undercoatings, Primers for all types of surface and, also, Cerrusco Texture and Water Paints. The skill and forethought embraced in our work together with constant research have established perfect uniformity among our standard finishes. The result is that you can always be sure of consistency of quality when re-ordering a particular finish.

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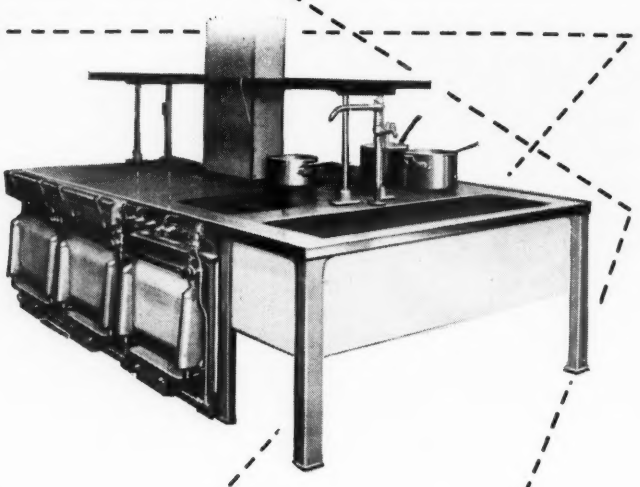
Palace Hotel, Torquay

If you want to know the fare to Torquay, ask British Railways. But don't ask anybody about the fare at the Palace Hotel there; go and sample it for yourself and agree that one meal alone is worth the journey.

You'll not find very much better cooking anywhere than you'll find at the Palace Hotel, Torquay. Its kitchens, of course, were completely equipped by Radiation (Large Cooking Equipment) Ltd.



Write to-day to the address below for full details of the Radiation Service of Kitchen Planning Engineers — a service which is available entirely without obligation to all who are concerned or likely to be concerned with the kitchens of large establishments.

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(LARGE COOKING EQUIPMENT) LTD

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The 2,500 tons of steelwork used in the factory buildings for the Government of Northern Ireland was fabricated in our workshops at Norwich and erected by us at Castlereagh and Duncrae Street, Belfast.

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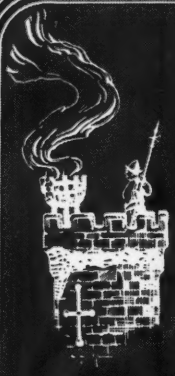

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ALUMINIUM DOUBLE-HUNG WINDOWS

Installed in the BANK OF NOVA SCOTIA BUILDING, TORONTO, by

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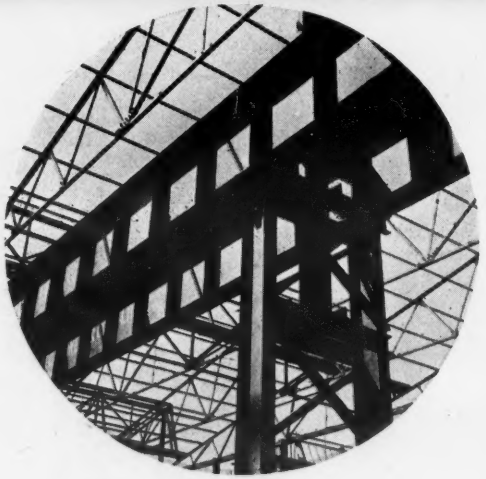
in association with Messrs. Cresswell Pomeroy, Montreal.

Architects: Mathers & Haldenby, Toronto.

Structural Engineering



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for the

Hemel Hempstead Rural District Council

MARLEY DOUBLE ROMAN TILES
were used throughout

Architects: F. R. S. Yorke, F.R.I.B.A., E. Rosenberg, C. S. Mardall, A.R.I.B.A.
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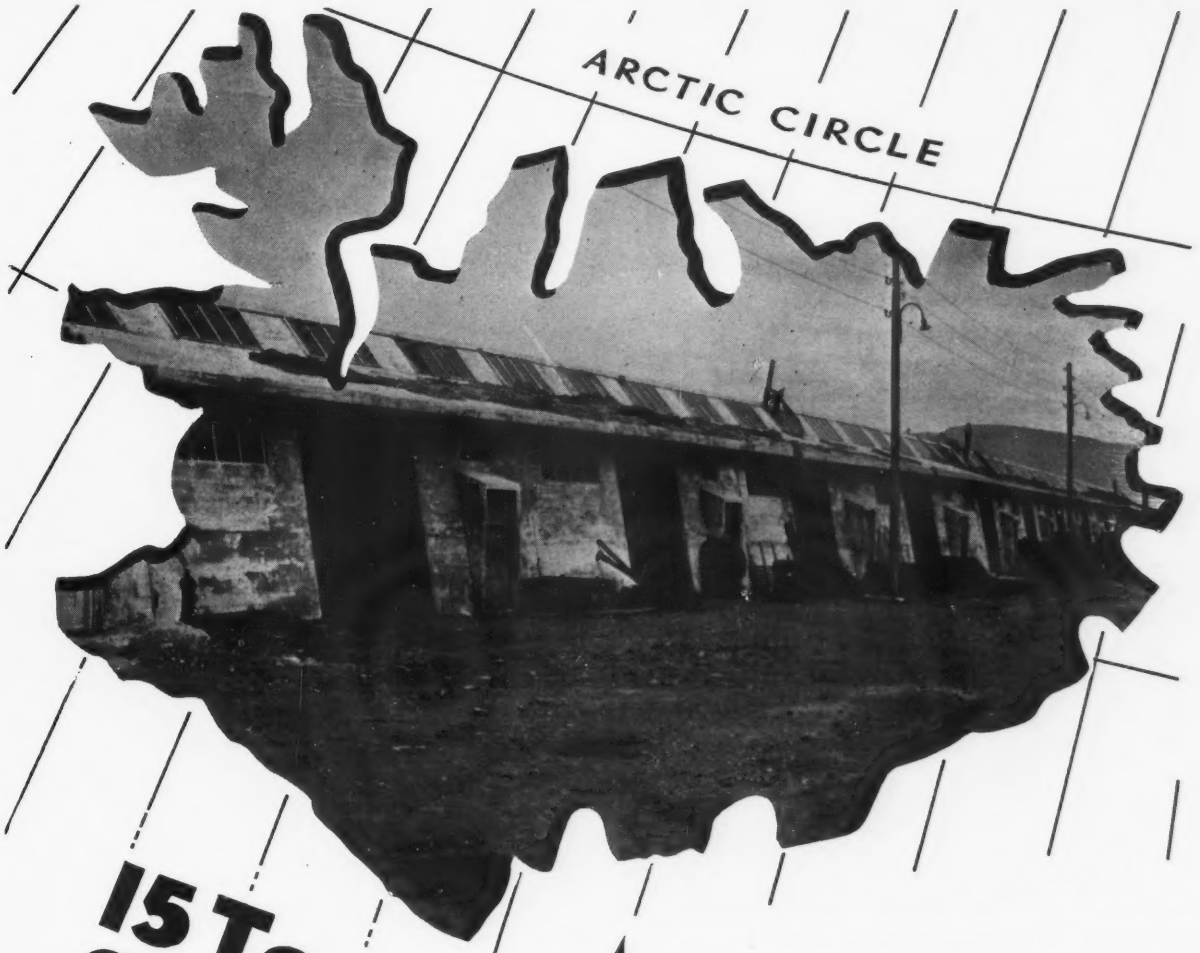
The Marley Tile Co. Ltd., Sevenoaks, Kent. Sevenoaks 2251-8 MARLE



15 Tough Shutters doing a Tough job

The gale warnings often in force in "Sea-area Iceland" are a reminder that building on the edge of the Arctic Circle is no easy matter.

When the fishermen of Reykjavik needed a building to house their gear—their nets can be seen drying on the roof of the finished job—the Harbour Administration took on a difficult task. Solid concrete was needed for the roof and the walls, which had to be set at angles to break the full force of gales beating over the exposed sea-wall site. But when it was decided to shutter the openings, no problem had to be faced. Fifteen Mather & Platt Steel Rolling Shutters are doing a tough job.

MATHER & PLATT LTD

Manchester 10

Architects, Builders and Public Authorities everywhere are specifying Robbialac Paints to brighten up Britain in this Festival year. These superlative materials are their first choice for the exterior and interior decoration of public buildings, hospitals, schools, factories, offices, shops and homes. For Robbialac Paints give lasting protection and beauty—outside and inside—at no more than the cost of ordinary paints.

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Catalogues, colourcards and general literature will be sent gladly on request or are obtainable from leading Builders' and Decorators' Merchants.

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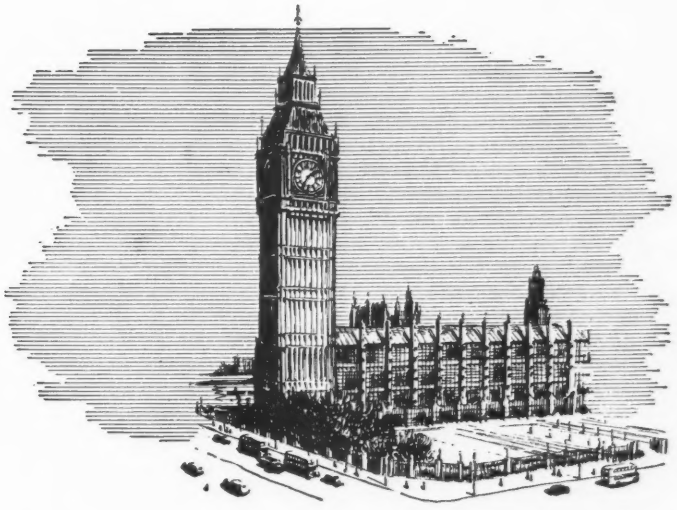
ADVISORY SERVICE BUREAU.

This bureau is freely at the disposal of all interested in the selection and application of decorative materials. Technical information and advice are always available.

Make Britain BRIGHTER with

ROBBIALAC PAINTS

JENSON & NICHOLSON LTD., JENSON HOUSE, STRATFORD, LONDON, E.15



LIFTS, ESCALATORS, REFRIGERATION IN THE NEW HOUSE OF COMMONS

Nine passenger lifts, three handpower hoists, two large refrigerating compressors for the air conditioning plant installed in the new House of Commons; nearby, on the South Bank Site of the Festival of Britain, an escalator, holding a record for bridging the longest span without intermediate support, to be working next year in the Dome of Discovery; four other escalators at the new Ocean Terminal, Southampton Docks, the first ever applied to the purpose of embarking and disembarking passengers by ocean liners; the liners, practically without exception, equipped with refrigerating plant; sixty-three per cent of the whole world's refrigerated shipping tonnage cooled by refrigerating machinery designed, built and installed by the same famous firm.

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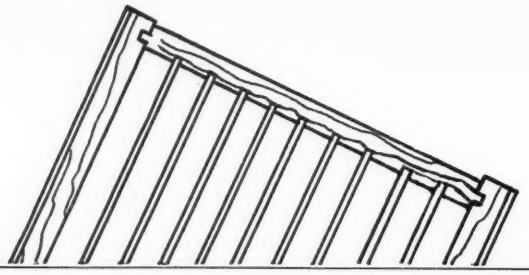
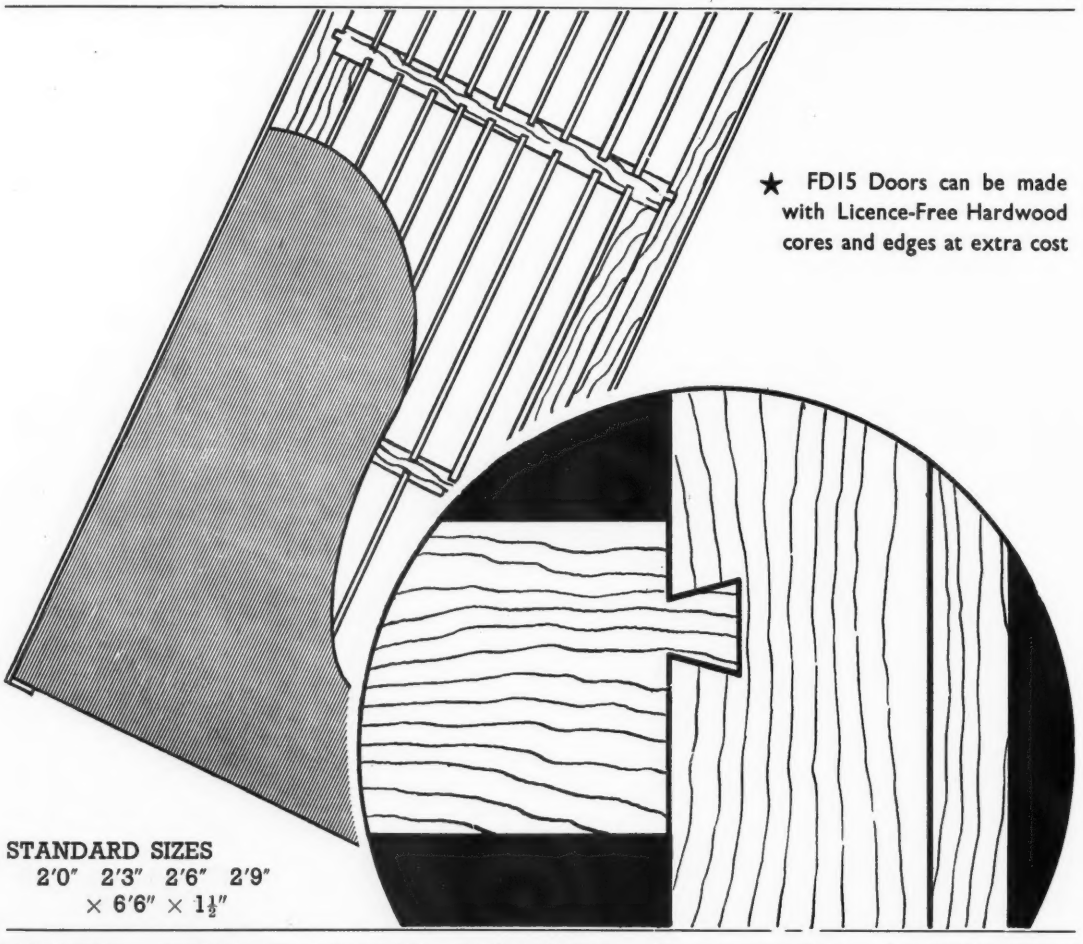
FD15



★ A NEW HARDBOARD–FACED FLUSH DOOR ★



★ FD15 Doors can be made with Licence-Free Hardwood cores and edges at extra cost

STANDARD SIZES
2′0″ 2′3″ 2′6″ 2′9″
× 6′6″ × 1½″

WITH DOVETAILED JOINTS & EXTRA RIGIDITY

A really well-made flush door, economical in timber and moderate in price. The Softwood cores have dovetailed joints between styles and rails, intermediate framing housed at each end and closely spaced to give adequate support to the faces of best one-eighth inch Hardboard. Vertical edges are lipped with solid tongued softwood strip.

JOHN SADD & SONS LTD.
Specialists in Joinery
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Simplicity is the keynote of good taste
and the quiet dignity and charm of
Walpamur Quality Paints provide the perfect
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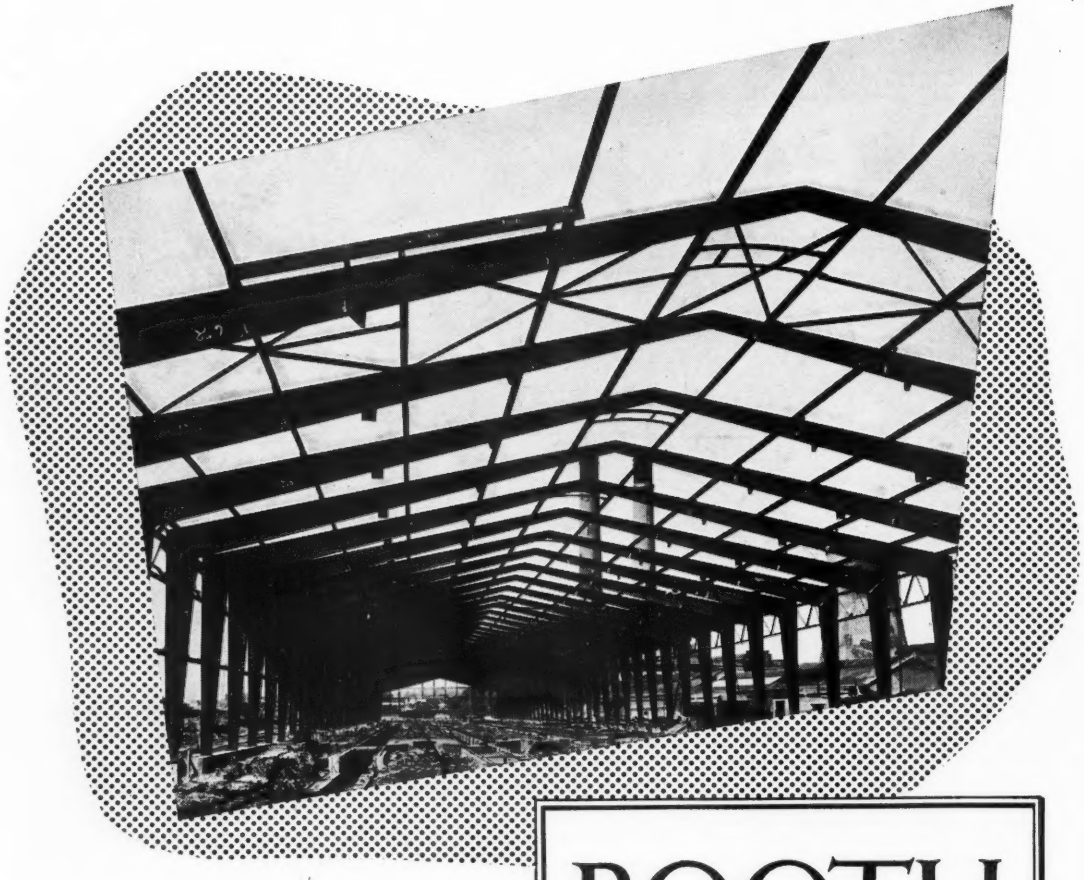
THE WALPAMUR CO LTD · DARWEN AND LONDON

W.103

whatever the shape

Architects know that in this age of transition, rapid changes to the original planning of buildings are often necessary. Steelwork is well adapted to these alterations, and the experience and technical skill of those responsible for BOOTH STEELWORK will be found invaluable in these circumstances.



Structural Steelwork • Steel Rolling Shutters & Fireproof Doors • Welded Steel Tanks Steel and Glass Partitions

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STEELWORK

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THE SNOWCEM CASE BOOK

SPILLER'S SILO · NEWCASTLE-ON-TYNE

The mill and the second of the silos belonging to Messrs. Spillers Ltd. scheduled for external treatment with Snowcem and Cemprover has now been completed and is illustrated above.

The reinforced concrete surface was first brushed to remove loose dust etc. and a priming coat of Cemprover No. 1 and water, mixed in equal parts was applied. This was followed by two coats of Duck Egg Green Snowcem brushed on. The area treated was 20,750 sq. yds.

Painting Contractors: Messrs. A. Bagnall & Co., Shipley, under the supervision of the Consulting Engineers: Messrs. Oscar Faber & Partners.

SNOWCEM is easily applied to concrete, stone or suitable brickwork by brush or spray. It is available in seven colours: White, Cream, Deep Cream, Buff, Pink, Silver-Grey and Duck-Egg Green.

CEMPROVER NO. 1 is a liquid for use in conjunction with Snowcem. *Our Technical and Advisory Department is at your service.*

SNOWCEM WATERPROOF CEMENT PAINT

DECORATES and PROTECTS — at low cost

PROSPERITY UNDER FREE ENTERPRISE

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or G. & T. EARLE LTD., Cement Manufacturers, Hull.
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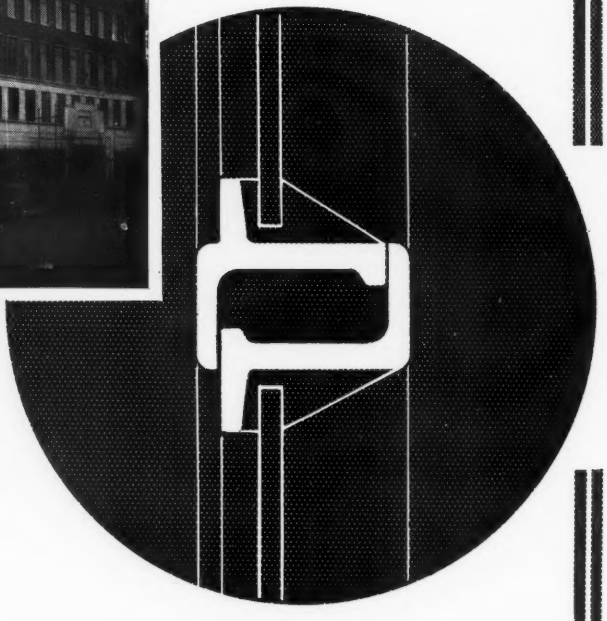
ATLANTIC HOUSE, E.C.1

T. P. BENNETT & SON, *Architects*



This "glaze under" detail, shown here full size, is a method of combining a sub-light and a side-hung ventilator into one unit without using a transom; it is used in most of the casements in this important building.

CRITTALL WINDOWS

IN THE FESTIVAL YEAR

THE CRITTALL MANUFACTURING CO. LTD · BRAINTREE · ENGLAND

IDEAL-Standard

Foremost for heating and sanitary equipment

Winning design incorporates IDEAL NEOFIRE...

In the recent Low-Cost Housing Design Competition, sponsored by *The Builder*, it was highly significant that the Ideal Neofire was incorporated in the winning design.★ Since the aim of the designers was to provide accommodation for five people for a capital outlay of under £1,000, the Ideal Neofire installation obviously contributes greatly to reducing constructional costs, since only one flue is required for the whole house.

The Ideal Neofire operates in the living-room as an open fire and will heat three other rooms by means of radiators fed from the highly-efficient boiler incorporated. This complete house-warming service is obtainable, together with all the hot water needed for baths and domestic use, for the same fuel consumption as an ordinary open fire heating one room. Coal, coke or anthracite may be used and the average rate of burning is about 2 lb. per hour.

★ *The architects responsible for the winning design are Mr J. L. Womersley, A.R.I.B.A., A.M.T.P.I., and Mr G. Hopkinson, B.Arch., A.R.I.B.A., A.M.T.P.I. (Borough Architect and Deputy Borough Architect to Northampton County Borough).*

IDEAL NEOFIRE

IDEAL-Standard
Foremost for heating and sanitary equipment

IDEAL BOILERS & RADIATORS LTD., IDEAL WORKS, HULL

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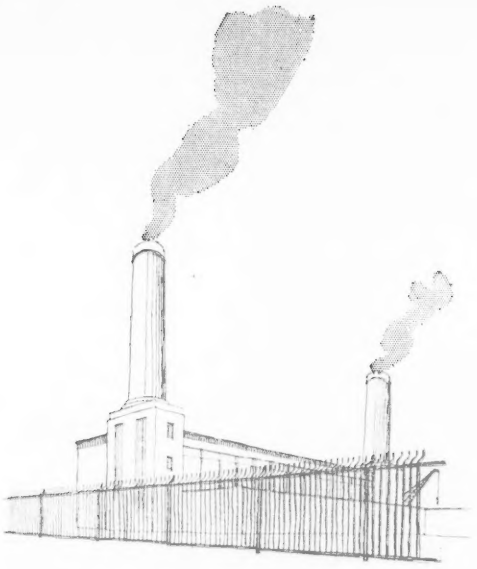
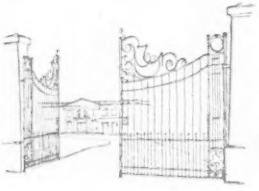
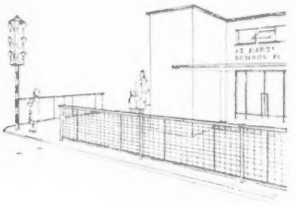
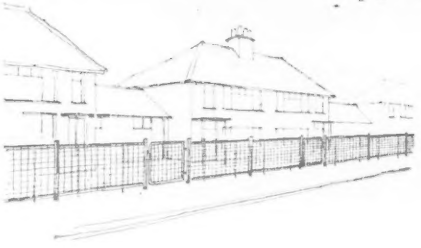
If it's railing or fencing for



or for  or for keeping people in 

or for keeping people out  or for

keeping people safe ring or write to :

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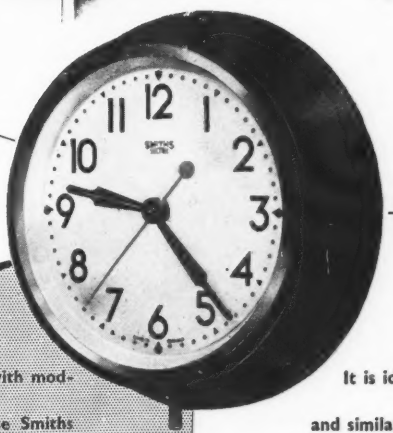
BJB

The Modern Clock for the Modern School

The Delhi



One of the most popular wall clocks in the Smiths 'Sectric' range. Available with 12", 9" and 6" dials.

No clock could be more in line with modern school architecture than the Smiths 'Sectric' Delhi, with its clear, easily read dial and smart but dignified appearance.

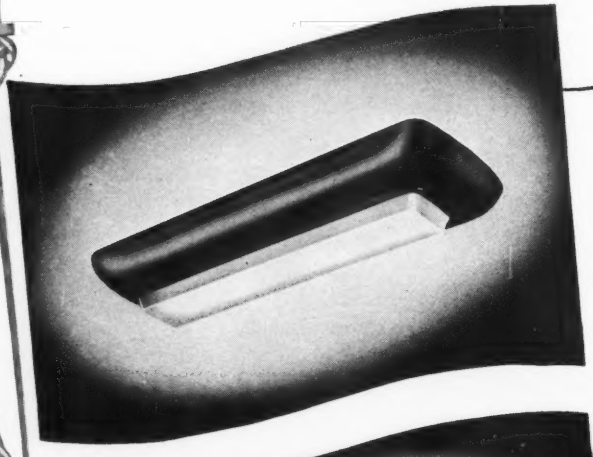
It is ideal, too, for offices, shops, factories, and similar buildings. Made by the world's largest manufacturers of Clocks, Watches and Precision Instruments.

Smiths Clocks were chosen for the new Primary School at Ormesby, N. Yorks.

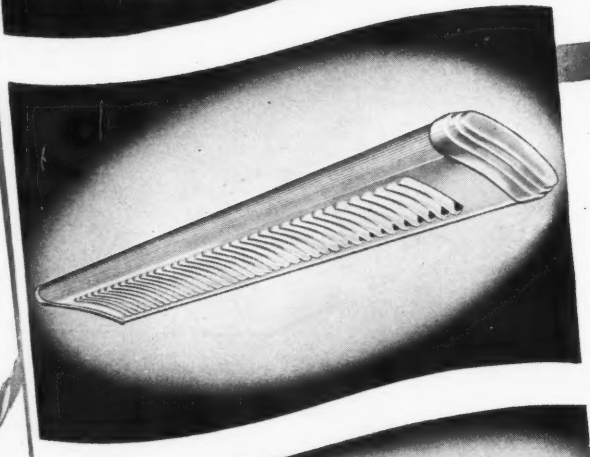
SMITHS 'SECTRIC' CLOCKS

SMITHS ENGLISH CLOCKS LTD., SECTRIC HOUSE, LONDON, N.W.2 The Clock & Watch Division of S. Smith & Sons (England) Ltd

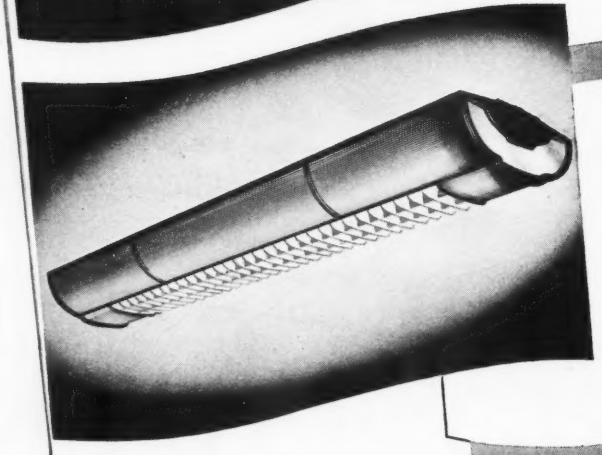
FESTIVAL IN LIGHT



GK 4240 Judging from the response to our announcement in the Women's Journals, this home fitting is adding festival brilliance to many family circles. Its four 2 ft. 40 watt lamps are concealed by the reflector.



FJL 2080 Designed on a new principle, the reeded opal 'Perspex' diffuser, with integrally moulded louvres and translucent end covers, gives this unit a graceful airiness. Soft, shadowless, flickerless, flattering light radiates from its two 5 ft. 80 watt lamps.



GL 3080 When you have to throw brilliant yet soft light on dark problems in showrooms and the more elegant offices, remember this fitting. It is pleasing in appearance and has three 5 ft. 80 watt lamps.

. . . . . *and in any fitting* **ATLAS "Double-life" fluorescent lamps** *will give 5,000 hours of bright service instead of the usual 2,500. They cost no more.*

ATLAS FLUORESCENT

IN 'NORTHLIGHT,' 'DAYLIGHT,' 'NATURAL DAYLIGHT,' 'WARM WHITE' & 'PEACH'

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THORN ELECTRICAL INDUSTRIES LTD., 105/109 JUDD STREET, LONDON, W.C.1

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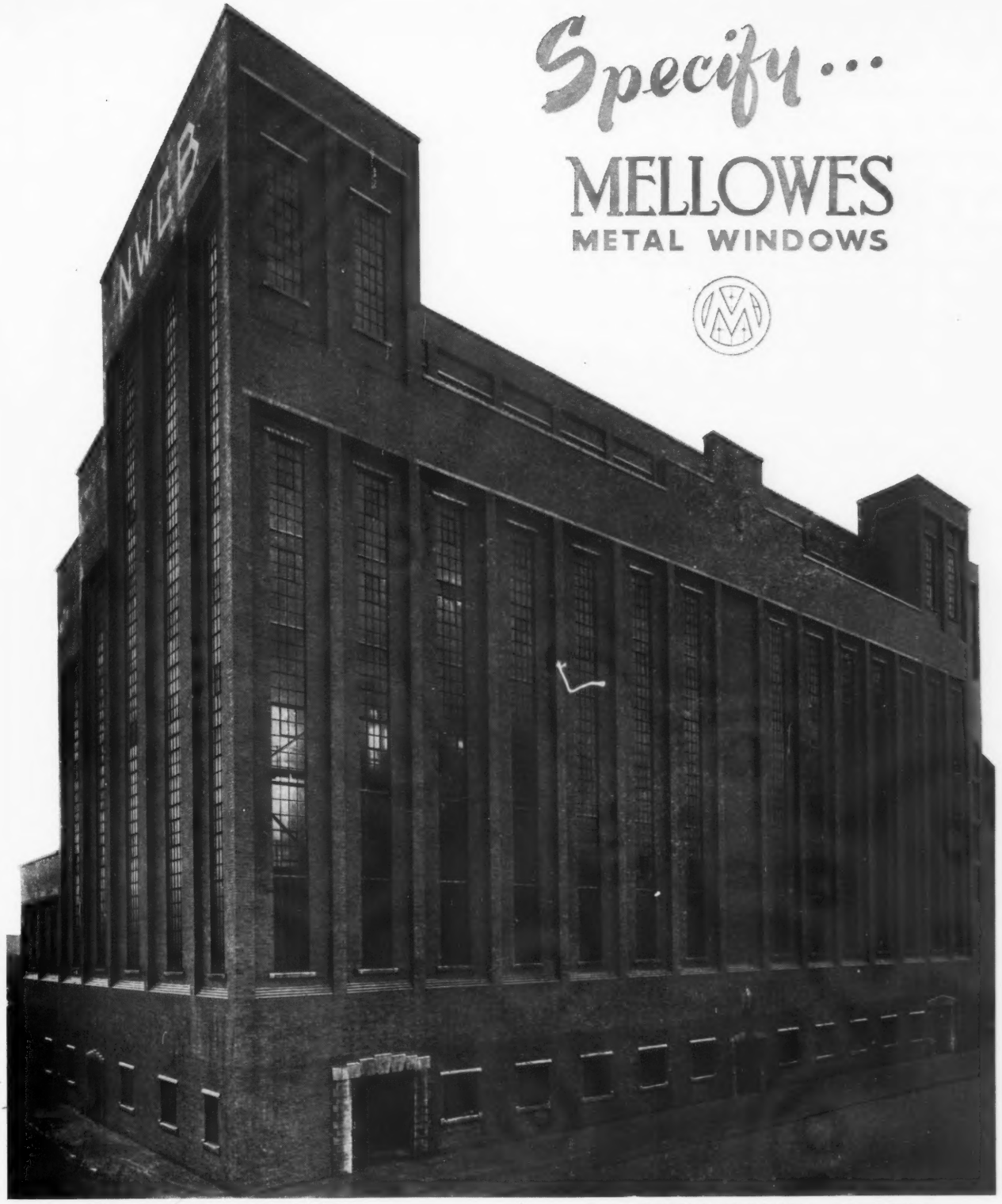
MELLOWES

METAL WINDOWS



Photograph by courtesy of the
North Western Gas Board, Salford.

Contractors: West's Gas Improvement Co. Ltd.,
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A sandfaced brick used to be an expensive hand-made article. After much experiment London Brick Company Limited devised a method by which the sand could be blasted into the brick under heavy air pressure and eventually a process was perfected by which sandfaced bricks of high quality could be economically produced by mechanical means. After exhaustive tests of its weathering properties it rapidly gained general acceptance among architects until now it has become standard practice, when a small grained texture is required, to specify

Phorpres bricks are available in a very wide range of standard specials. Particulars of these may be obtained from the Technical and Research Department who are at your service for information or advice on brickwork problems.

the PHORPRES sandfaced brick

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BY APPOINTMENT BRICKMAKERS TO H.M. THE KING

Carved in Rock

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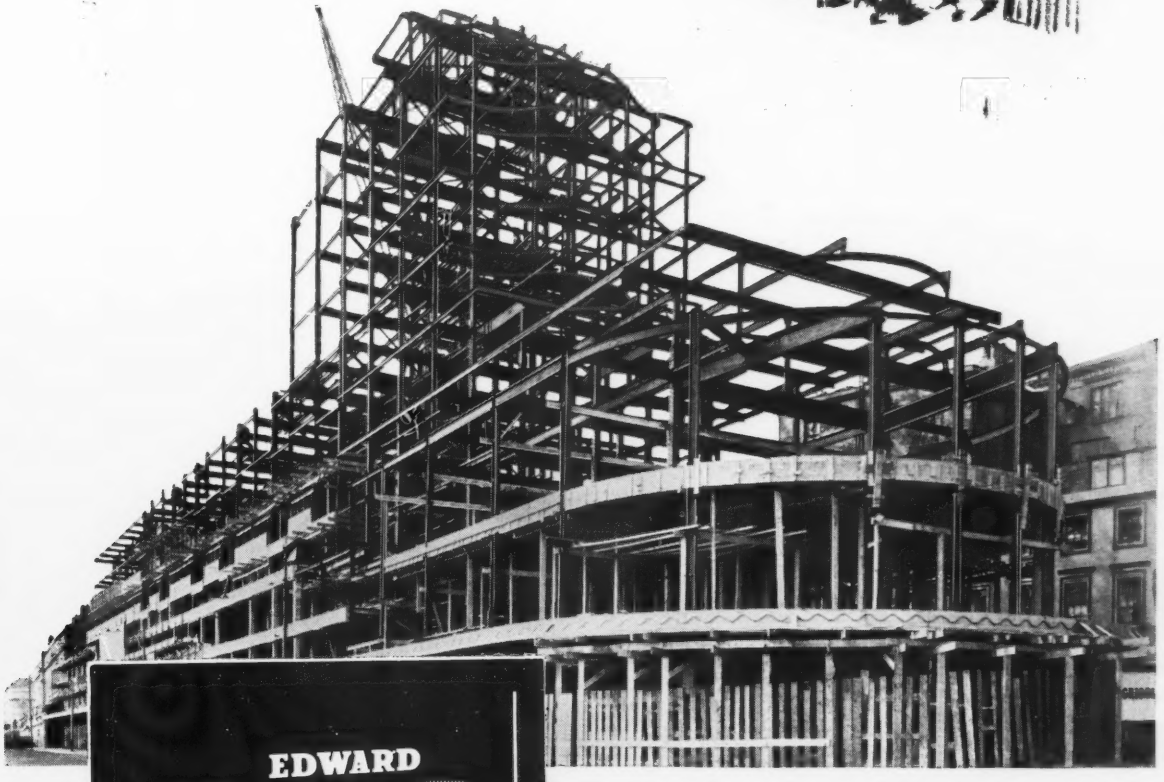

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This great block of flats and shops at St. Leonards-on-Sea displays a bold front in the modern manner, based on steelwork by Edward Wood & Co. Ltd.

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Auditorium Permanently Lighted by — G.E.C.

It is the Royal Festival Hall, the only permanent building on the site, that will carry proud memories of the South Bank Exhibition; and it is a source of pride to the G.E.C. that for the auditorium the Chief Engineers' Department of the London County Council should have appointed the Company to collaborate in the design of the lighting installation as well as the supply of the equipment.

The Company's equipment was also used for the exterior lighting of a quarter of the exhibition grounds which included the Homes and Gardens section as well as the fountains and lakes which employed over 800 G.E.C. floodlights.

OSRAM lamps are installed throughout the Royal Festival Hall—foyer and auditorium—and elsewhere in the exhibition.

Electrical contractors: Berkeley Electrical Engineering Company Limited

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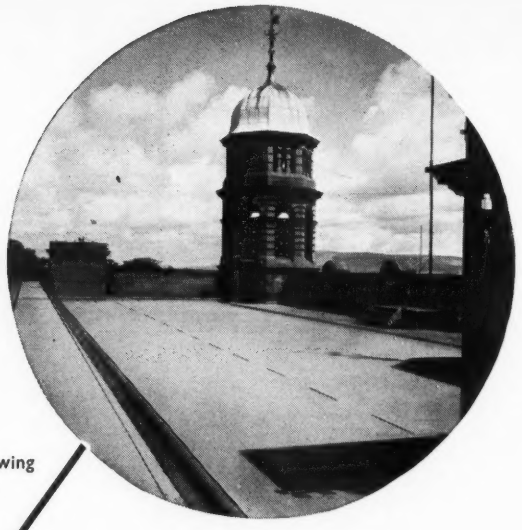
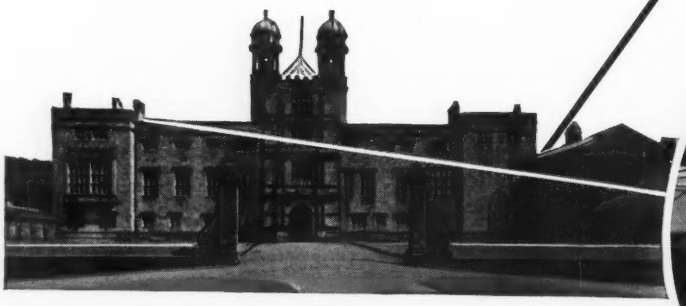
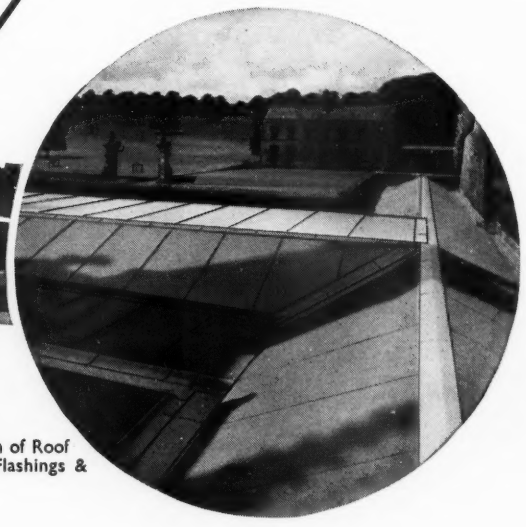
Roofing by RUBEROID takes care of all details



Section of Roof showing Gutters and Outlets.



Stonyhurst College, Hurst Green, Whalley.
Architect: Wilfrid C. Mangan, M.I.A.A.S.

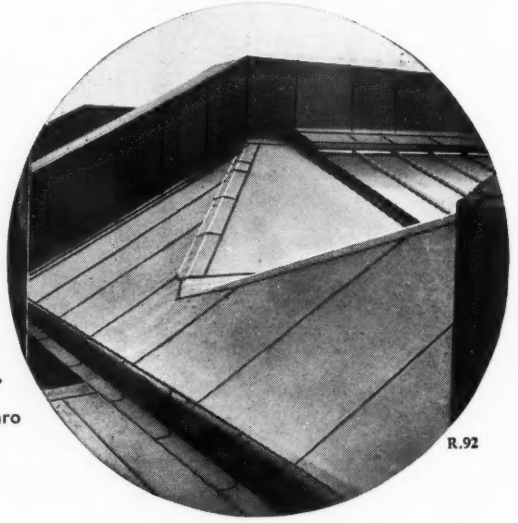


Another Section of Roof showing Hips, Flashings & Gutters.

An important feature of The Ruberoid System of Roofing is the ease with which it effectively masters such details as gutters, outlets, hips, flashings and vertical work. The careful and skilful execution of these details forms an essential part of the roofing contract.

The Ruberoid Company is able, therefore, to assume full responsibility for the entire roofing work, by both supplying and fixing the materials employed on all sections of the roof area.

Architects and Engineers are invited to write for the technical brochures which describe in detail the standard specifications for Ruberoid Roofs.



Section of Roof of Macfarlane Lang & Co. Ltd., Osterley.
Architects: James M. Monro & Son.

R.92

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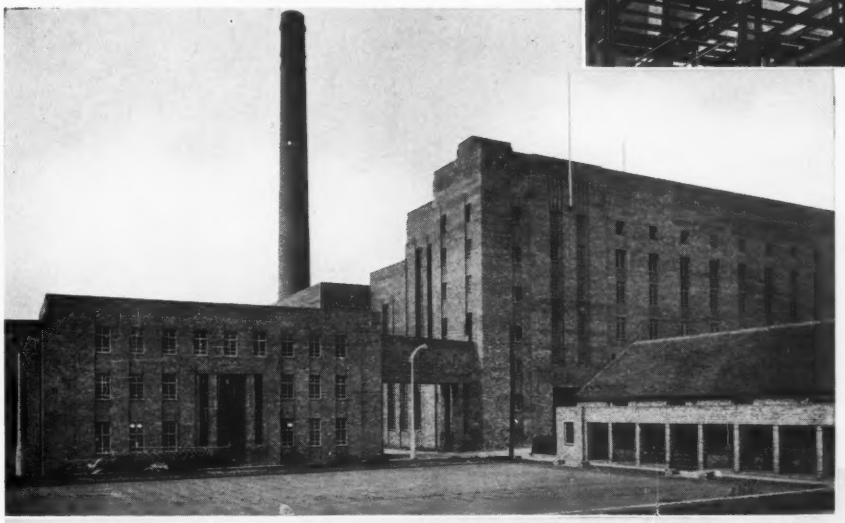
Where are the BRICKS going?

4: POWER STATIONS

The new generating stations are of massive proportions and necessarily conspicuous. They have received much thought from the aesthetic standpoint, and the bricks used have been carefully selected to harmonise with their surroundings.

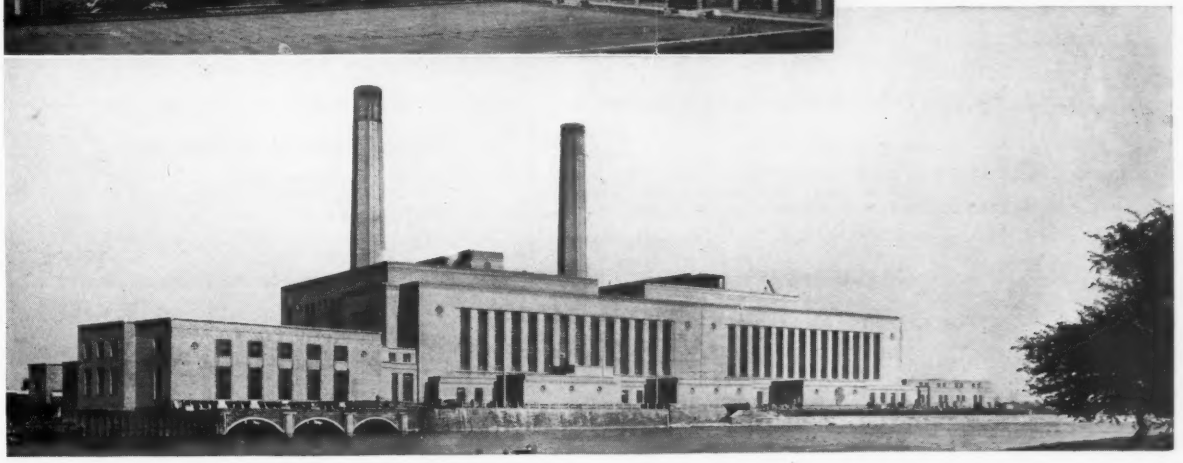
The high-priority requirements of the British Electricity Authority, added to the urgent demands for Houses and Flats, Schools, Office Blocks, Industrial and many other types of building, have taxed the resources of the brick industry. Production is increasing in the face of many difficulties, and a steady improvement in the supply position is assured.



Above: Portion of Croydon Power Station, under construction. Architect: Robert Atkinson, F.R.I.B.A.

Left: Stourport 'B' Power Station. Architects: Farmer & Dark, F/F.R.I.B.A.

Below: Staythorpe Power Station. Architect: T. Cecil Howitt, D.S.O., O.B.E., F.R.I.B.A.



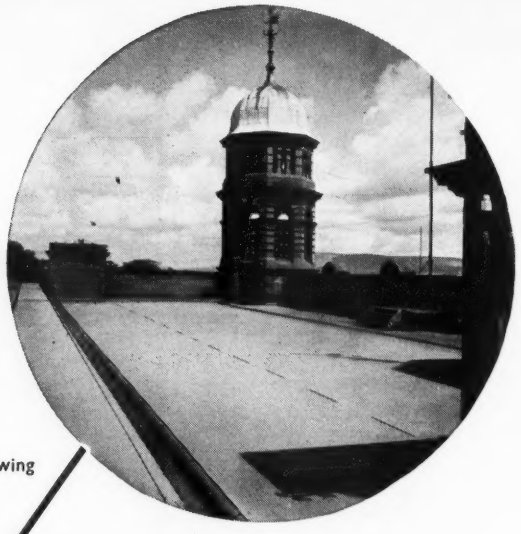
Photographs by courtesy of British Electricity Authority

BRICK

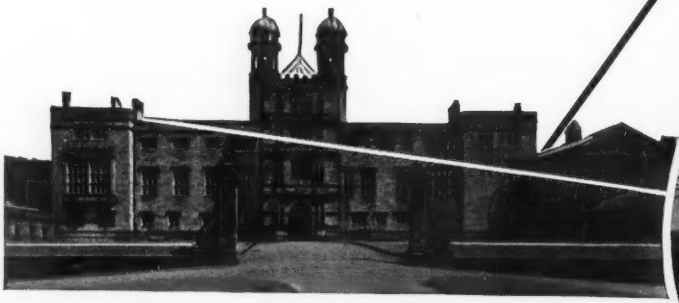
The Modern Building Material

Issued by The National Federation of Clay Industries, Drayton House, W.C.1

Roofing by RUBEROID takes care of all details



Section of Roof showing Gutters and Outlets.



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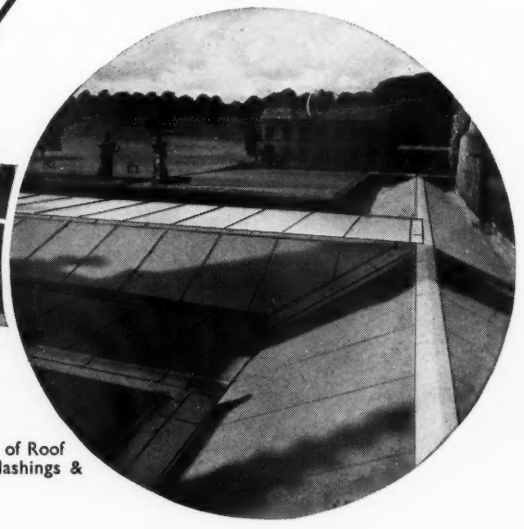

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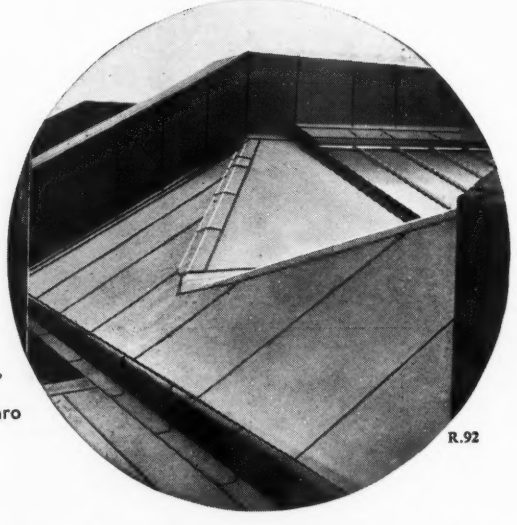

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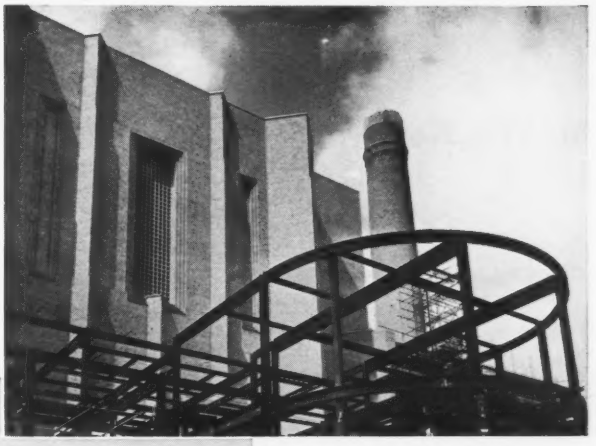

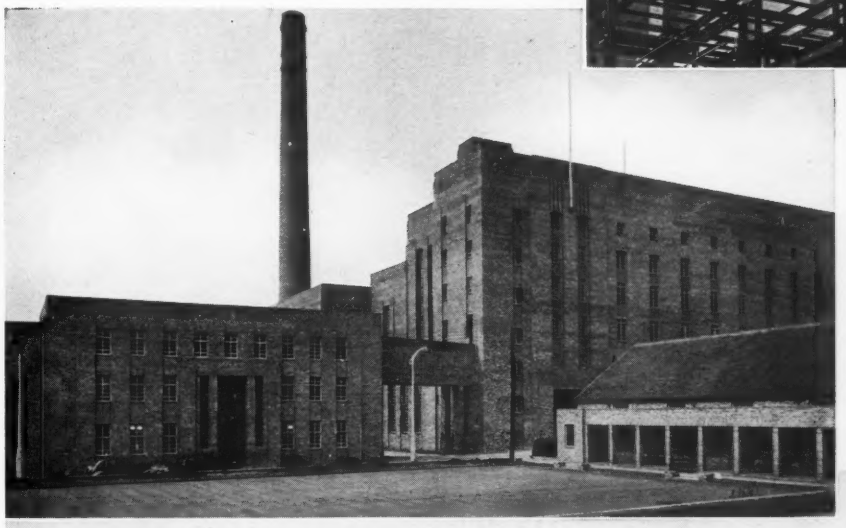

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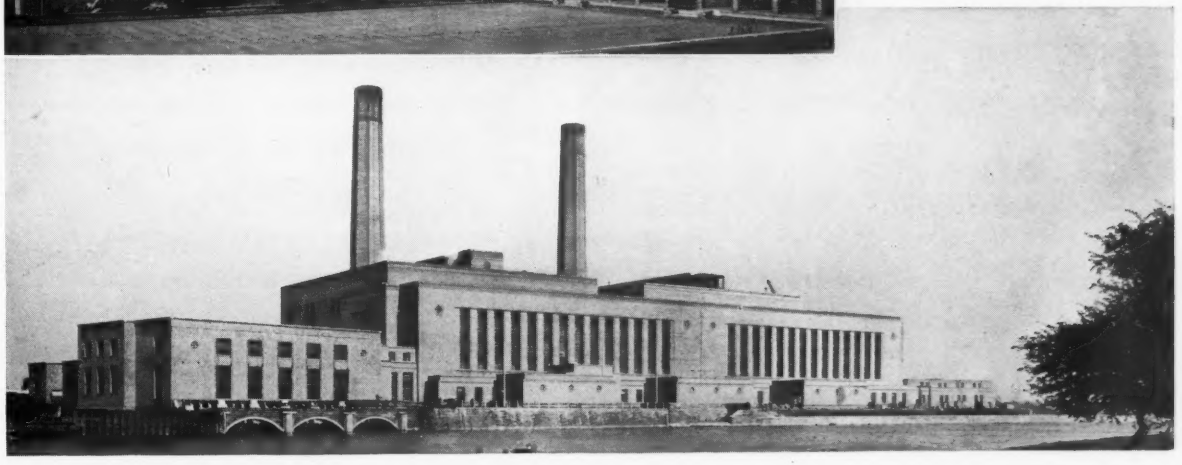

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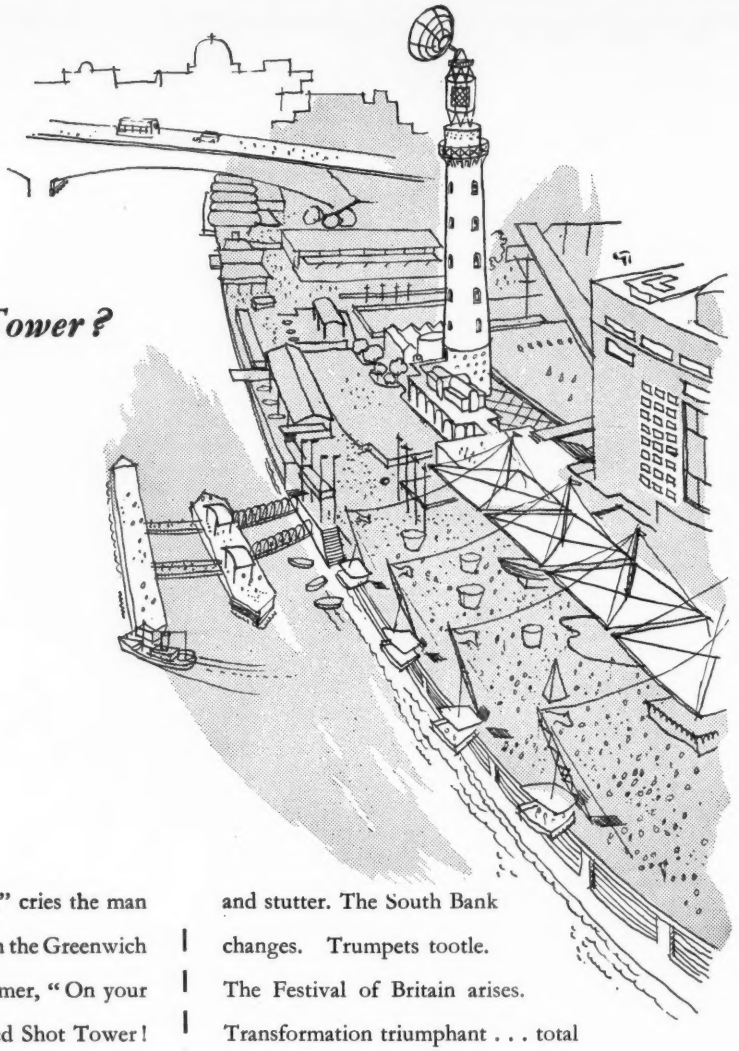
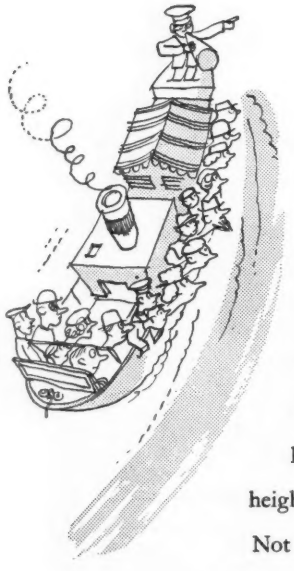


Do We Know Our Shot Tower?



"On your right," cries the man with the megaphone in the Greenwich bound pleasure steamer, "On your right is the celebrated Shot Tower! On your left . . . " As if we needed to be told! For the Shot Tower is... the Shot Tower was *our* Shot Tower. Not so many months ago our molten lead was falling* from its dizzy upper heights into our tank of water at the bottom. Not so many years ago our lookouts were watching uneasily from its balcony for somebody else's flying bombs. Pneumatic drills stammer and stutter. The South Bank changes. Trumpets tootle. The Festival of Britain arises. Transformation triumphant . . . total turnabout . . . but no! For there stands the Shot Tower, as tall as ever — though it looks rather more like a lighthouse now, and we have heard murmurs of radar messages to the moon. Well, what of that? In the respectability of its age, in the adaptability of its outlook, our Shot Tower is a true representative of

* *As it still is from our tower in Chester.*

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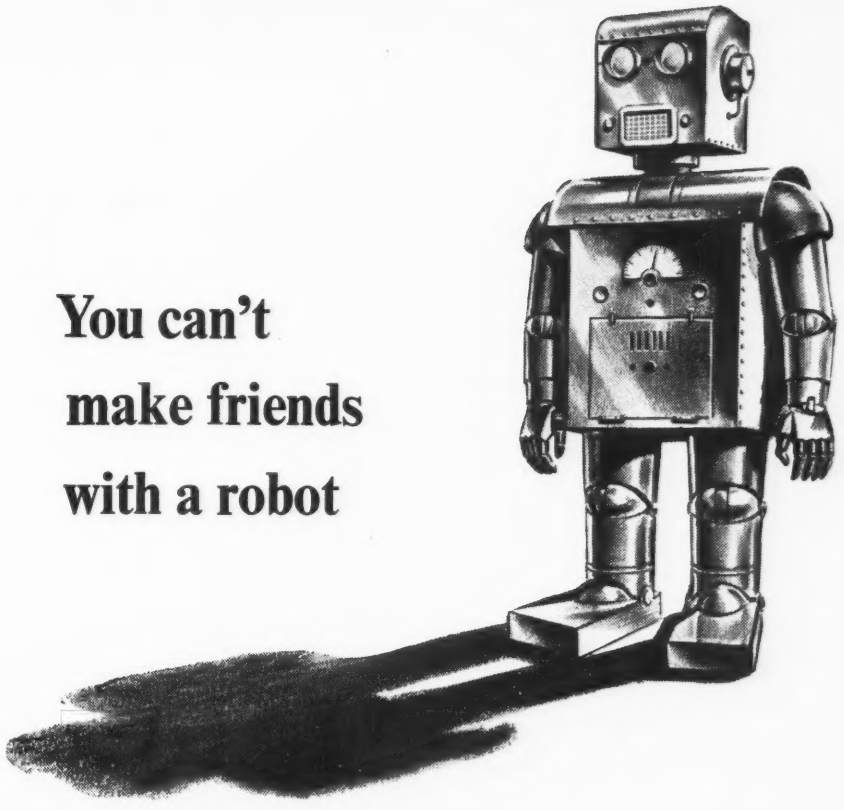

You can't make friends with a robot

SCIENTISTS have invented highly ingenious *Mechanical men* which can work out sums, cross a floor without bumping into furniture and answer questions almost as knowledgeably as Professor Brogan. Nevertheless, most of us would rather have real human beings as companions in our daily lives.

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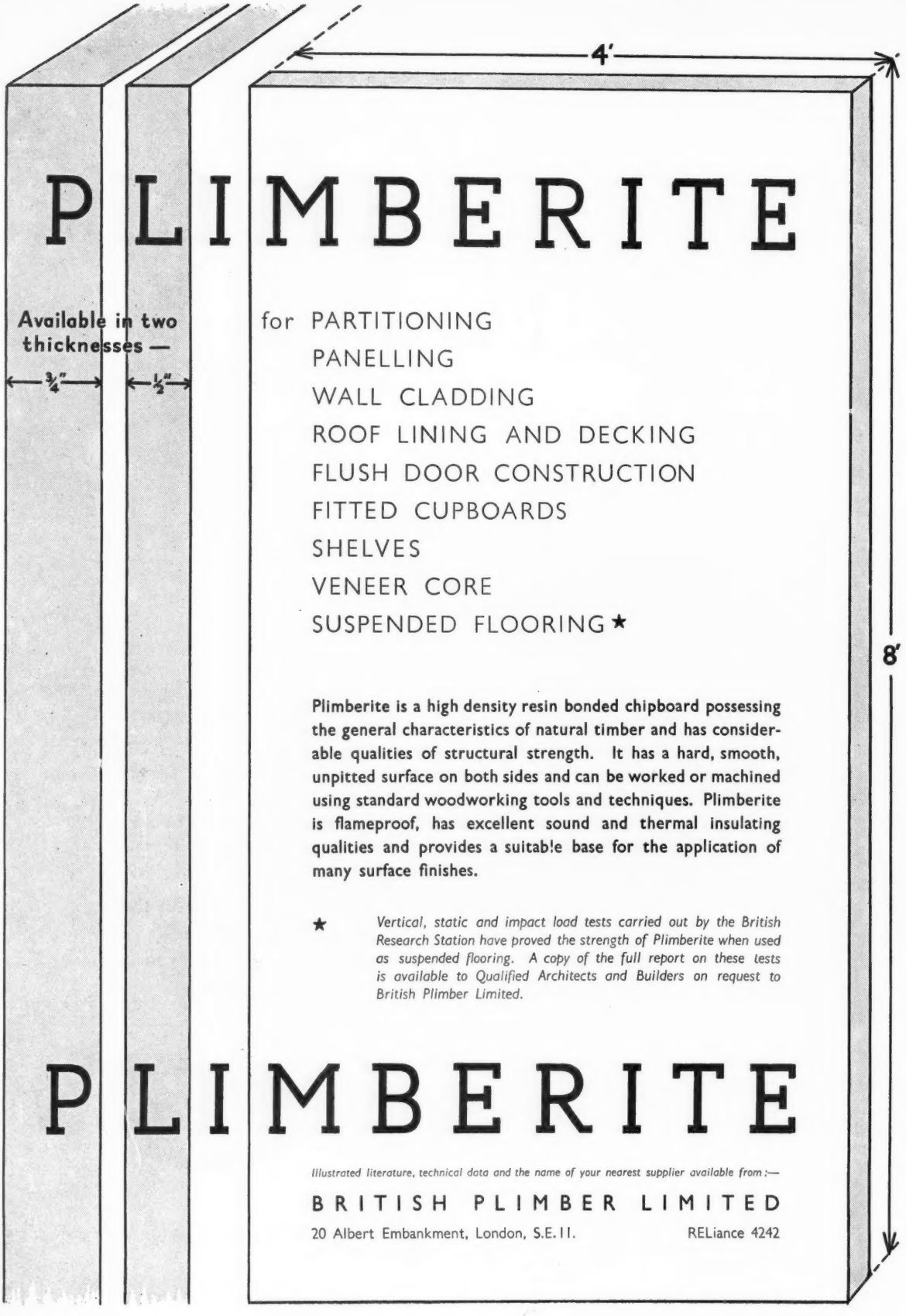

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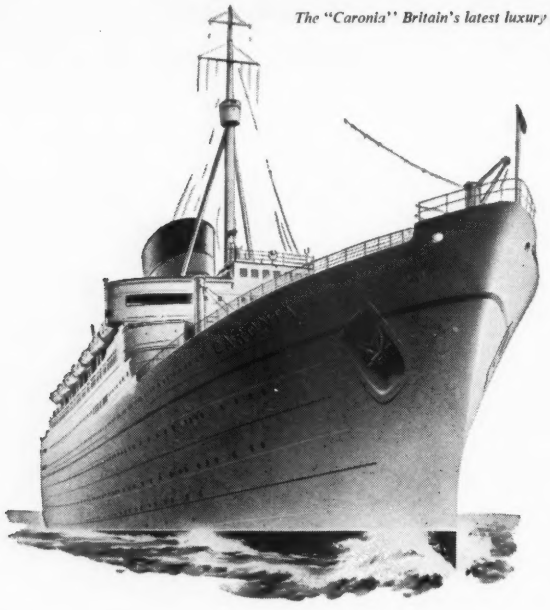

The "Caronia" Britain's latest luxury liner

to-day's latest achievement will make way for greater developments to-morrow

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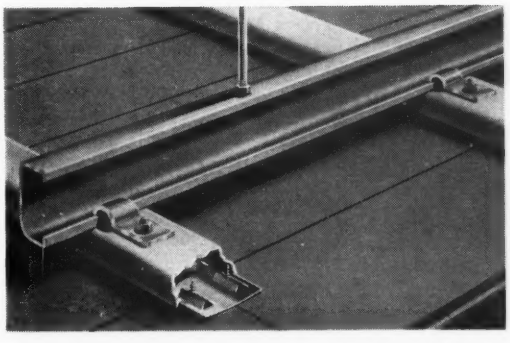
"I heard you the first time"–



The hum and clatter in a weaving shed must be heard to be believed but this one has a roof lining of Acousti-Celotex Tiles which absorbs most of the noise

Factories, Power Stations and Engine Control Rooms represent some of the many applications of sound-absorbing materials which are being installed by the Cullum staff.

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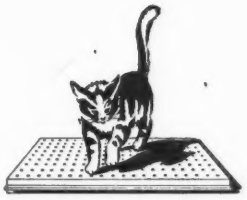

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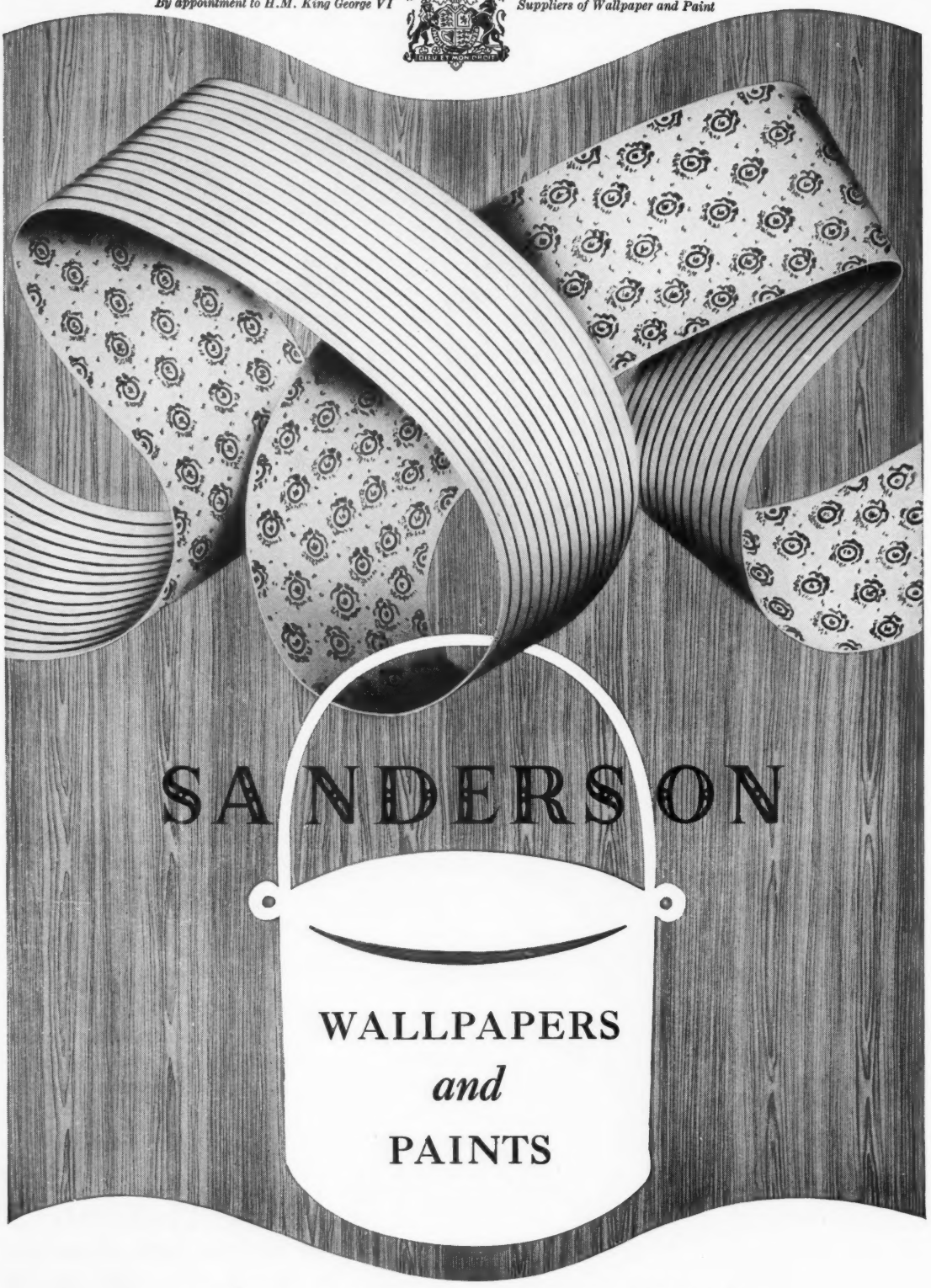

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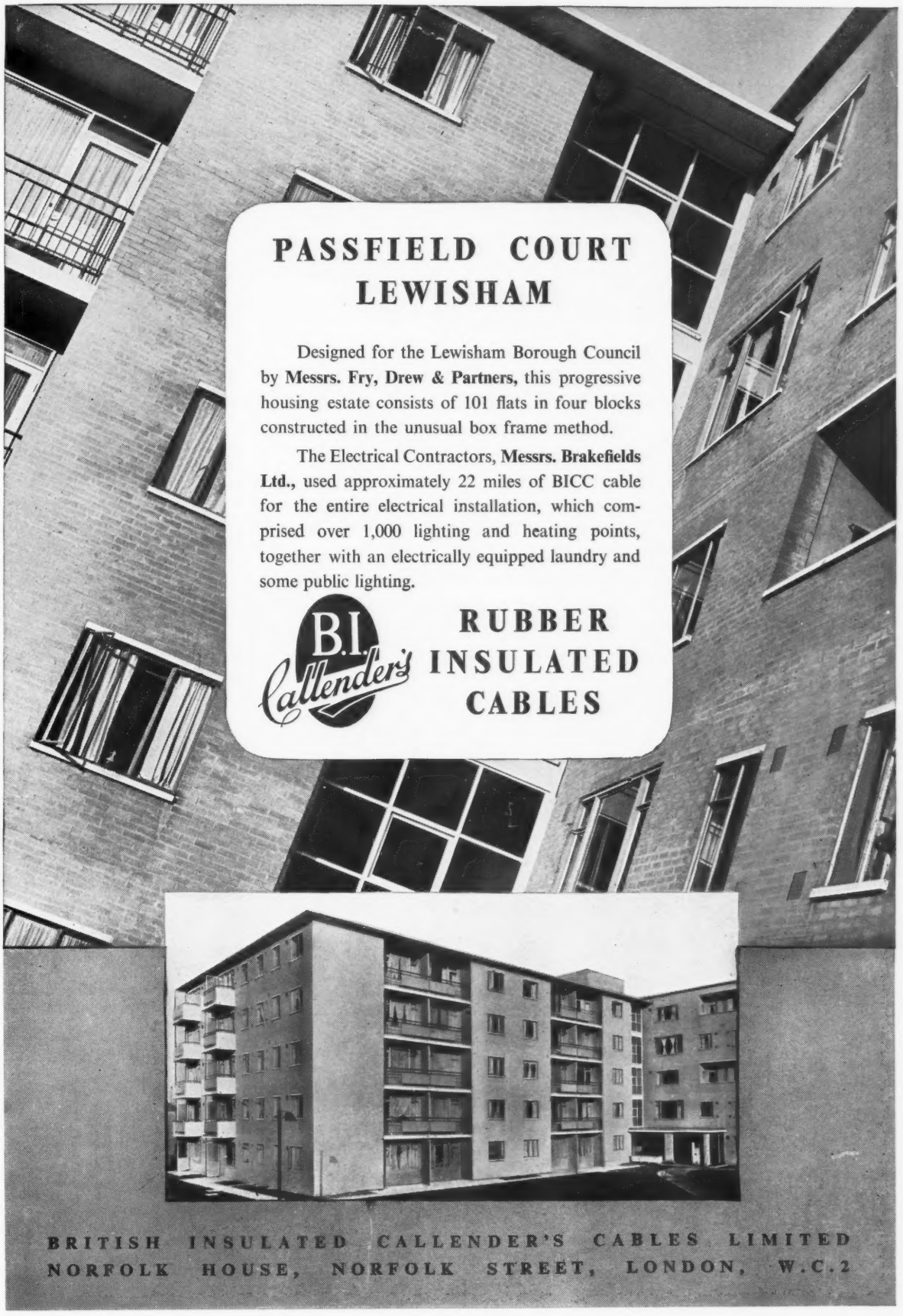

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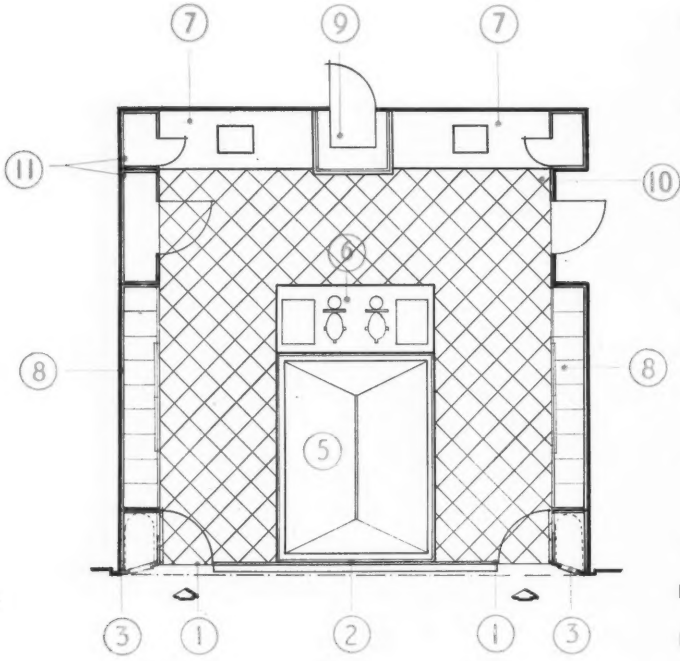
NEW TYPE OF FISHMONGER'S SHOP

The problem of protecting foodstuffs that are displayed and stored in shops is basically an architectural problem, which may be solved by good design and the use of appropriate materials. Here is one solution, which provides new standards of hygiene; a fishmonger's shop designed by Edward D. Mills, F.R.I.B.A.

Specification of Materials



Plan Fishmonger's shop

SCALE 1/8 = 1-0

1. **Entrance doors.** Standard "ARMOURPLATE" glass frameless doors.
2. **Shopfront.** Window and side lights glazed with "INSULIGHT" Double Glazing units. Stall board including access doors to basement faced with "VITROLITE".
3. **Shop surround.** Side panels faced with "VITROLITE", display panels glazed with polished plate glass and lined with mirror.
4. **Fascia.** Hardwood frame glazed with fluted glass, with provision for fixing lettering.
5. **Fish slab.** Marble top with drainage gutter and water spray. Counter facing including access doors to lift to basement faced with white "VITROLITE".
6. **Service point.** ½" rough cast glass top on timber substructure faced with white "VITROLITE".
7. **Preparation benches.** Marble slabs. White "VITROLITE" linings to walls. Ceiling light glazed with Borealis glass to conceal lighting. Bench front faced with white "VITROLITE". Metal lining to refuse chutes.
8. **Wall display cases for poultry.** Lined with mirror to increase display value. Doors; sliding frameless polished plate glass. Adjustable shelves in polished plate glass.
9. **Cashier's Desk.** "ARMOURPLATE" glass surround to cash desk.
10. All walls to shop lined with white "VITROLITE" in standard ashlar sizes.
11. Cupboards for overalls and equipment, etc.

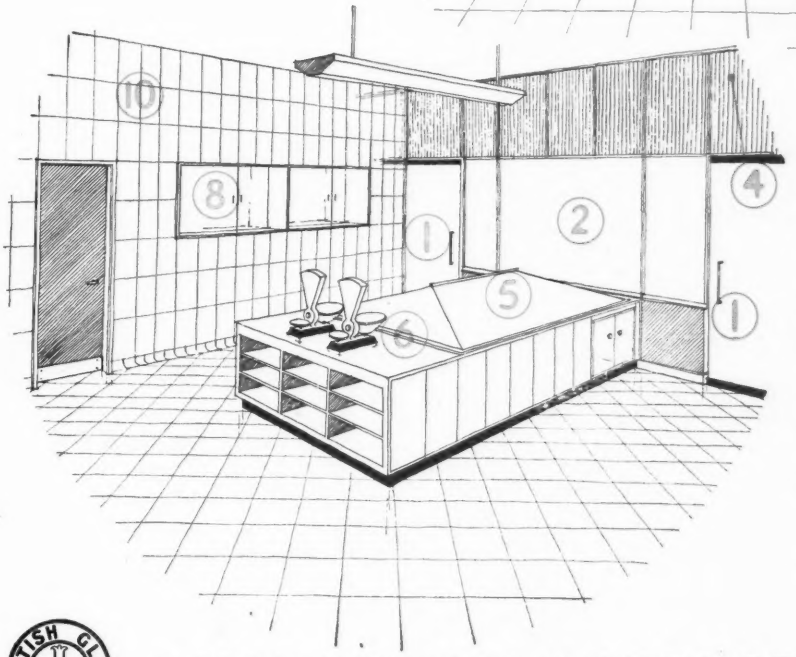
Perspective of exterior

PROTECTION

WITH NEW STANDARDS OF HYGIENE

Interior views of shop

(See plan and specification on opposite page)



Consult the Technical Sales and Service Department at St. Helens, Lancs., or Selwyn House, Cleveland Row, St. James's, London, S.W.1 · Telephones: St. Helens 4001, Whitehall 5672-6.

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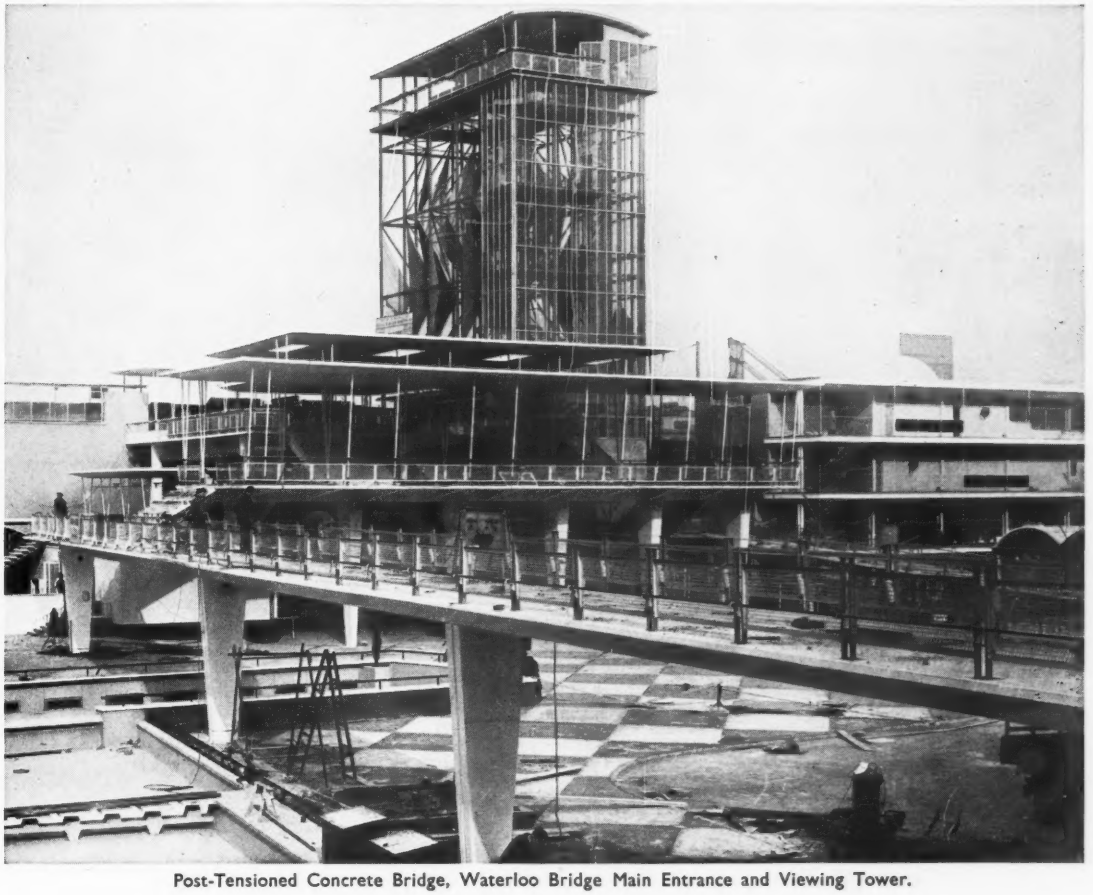

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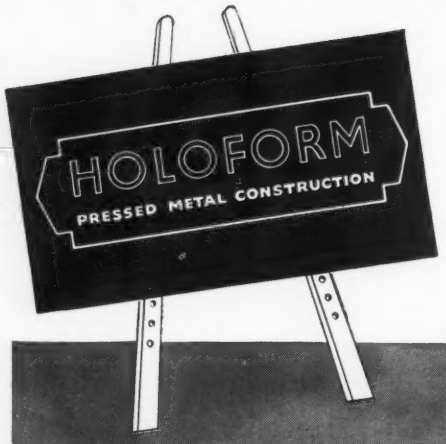

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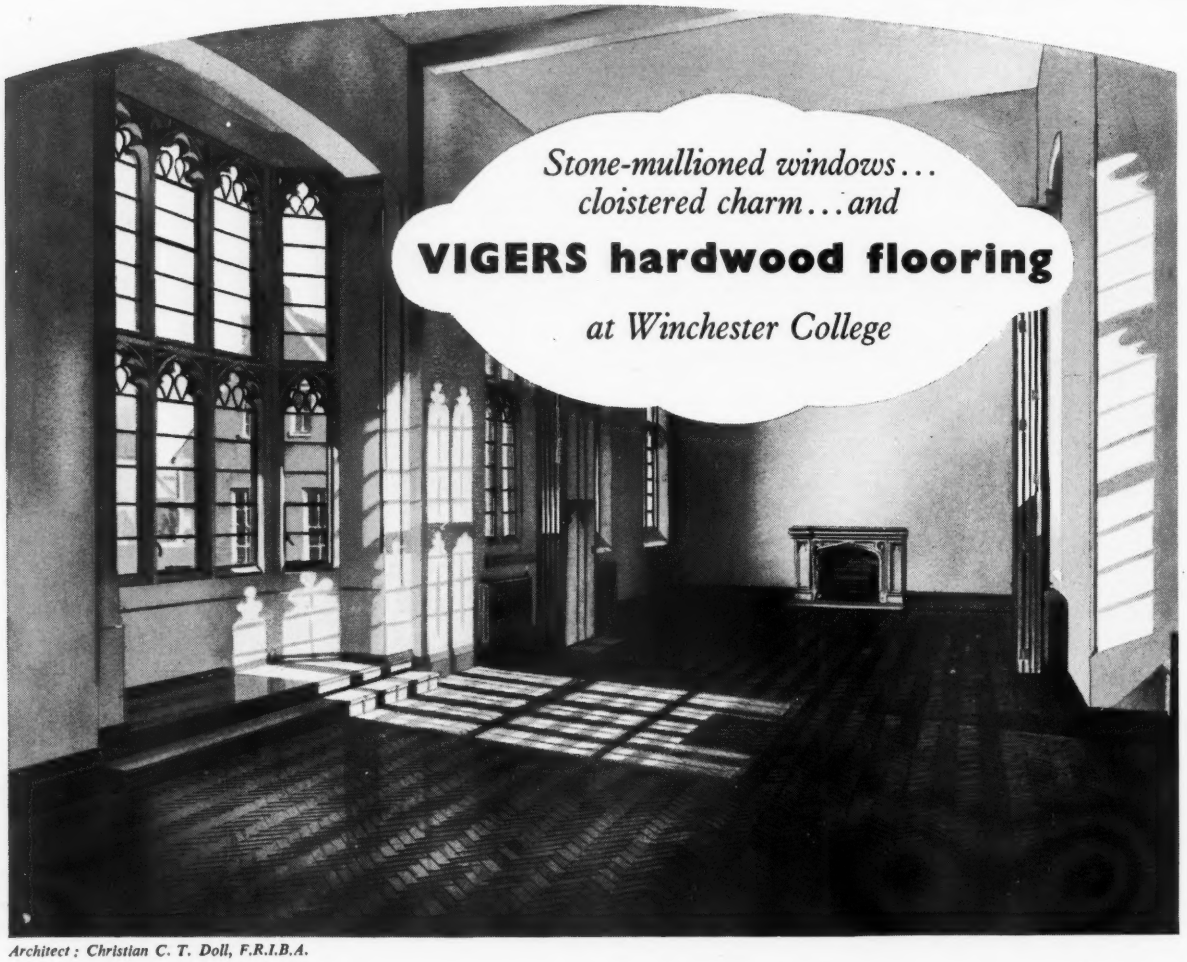

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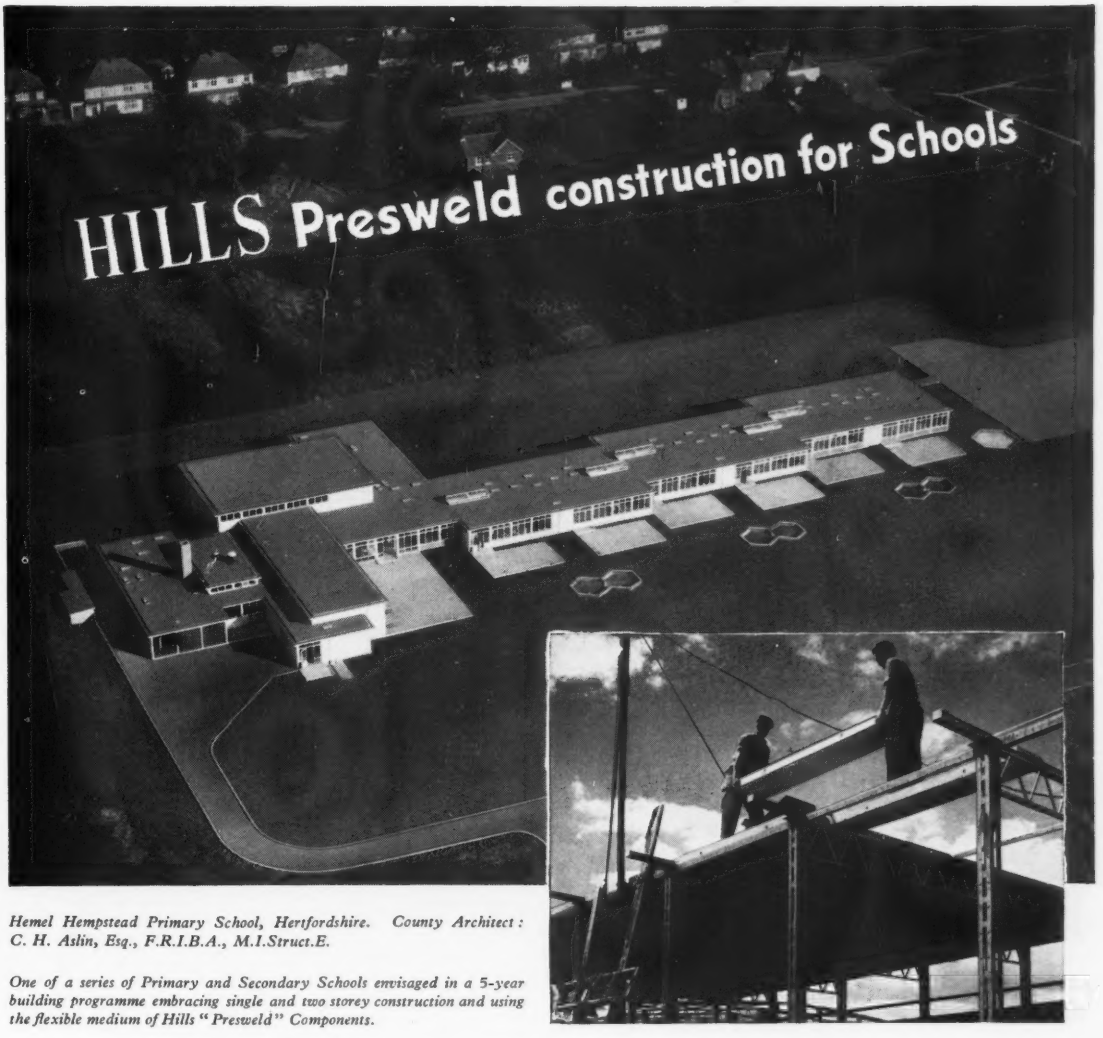

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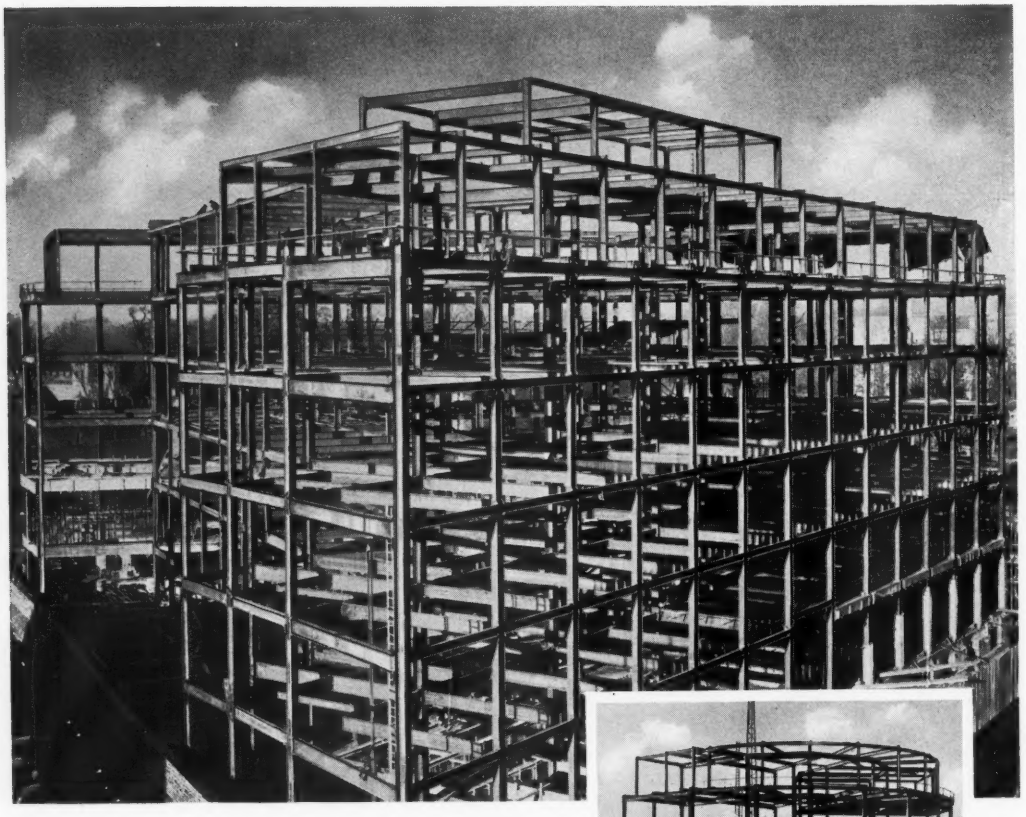

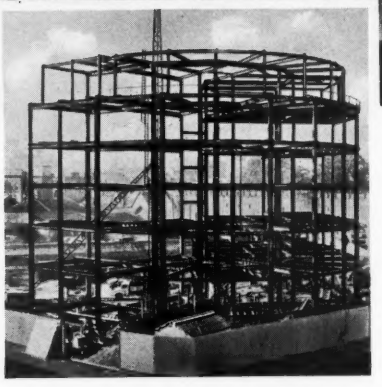

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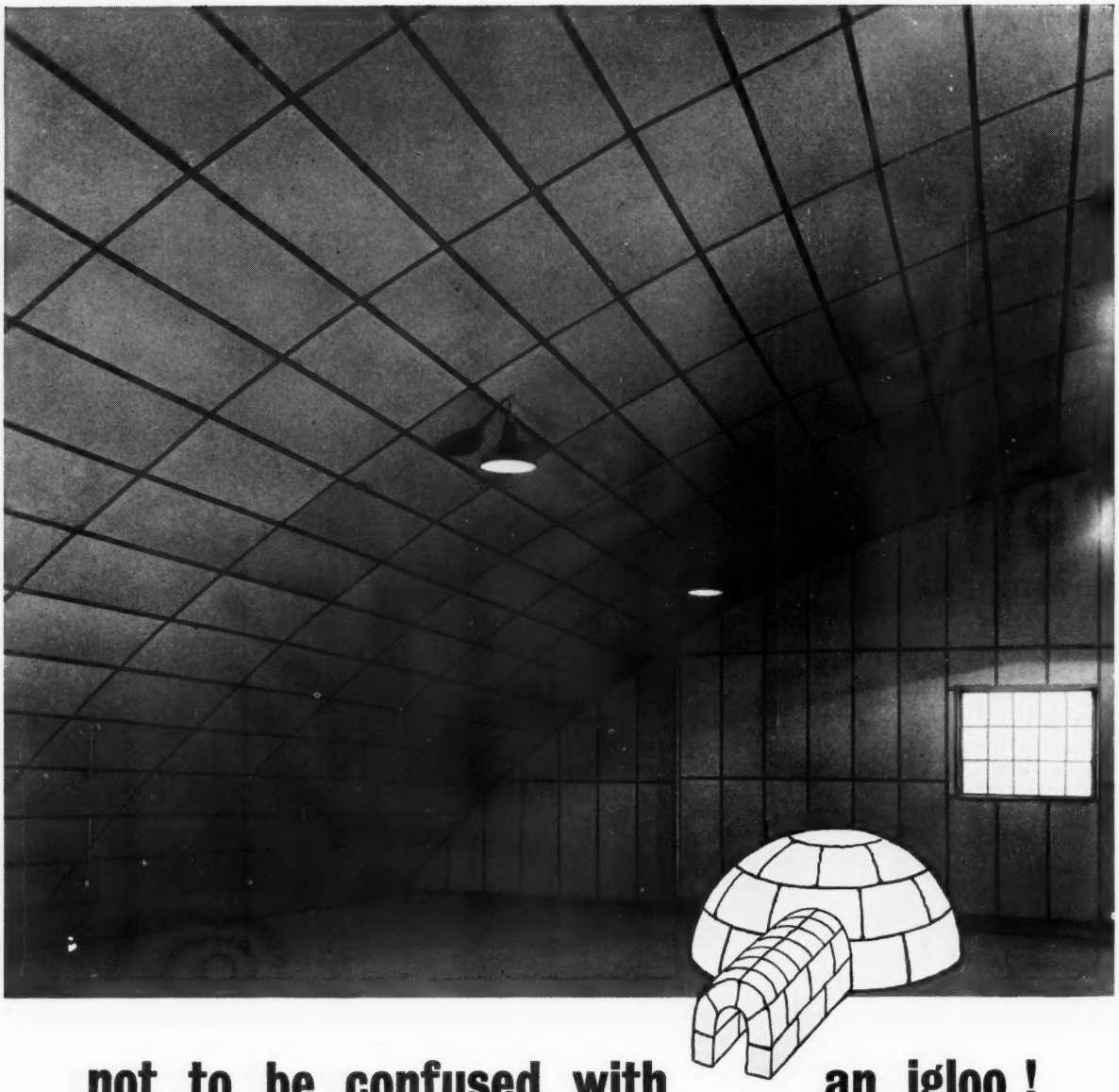

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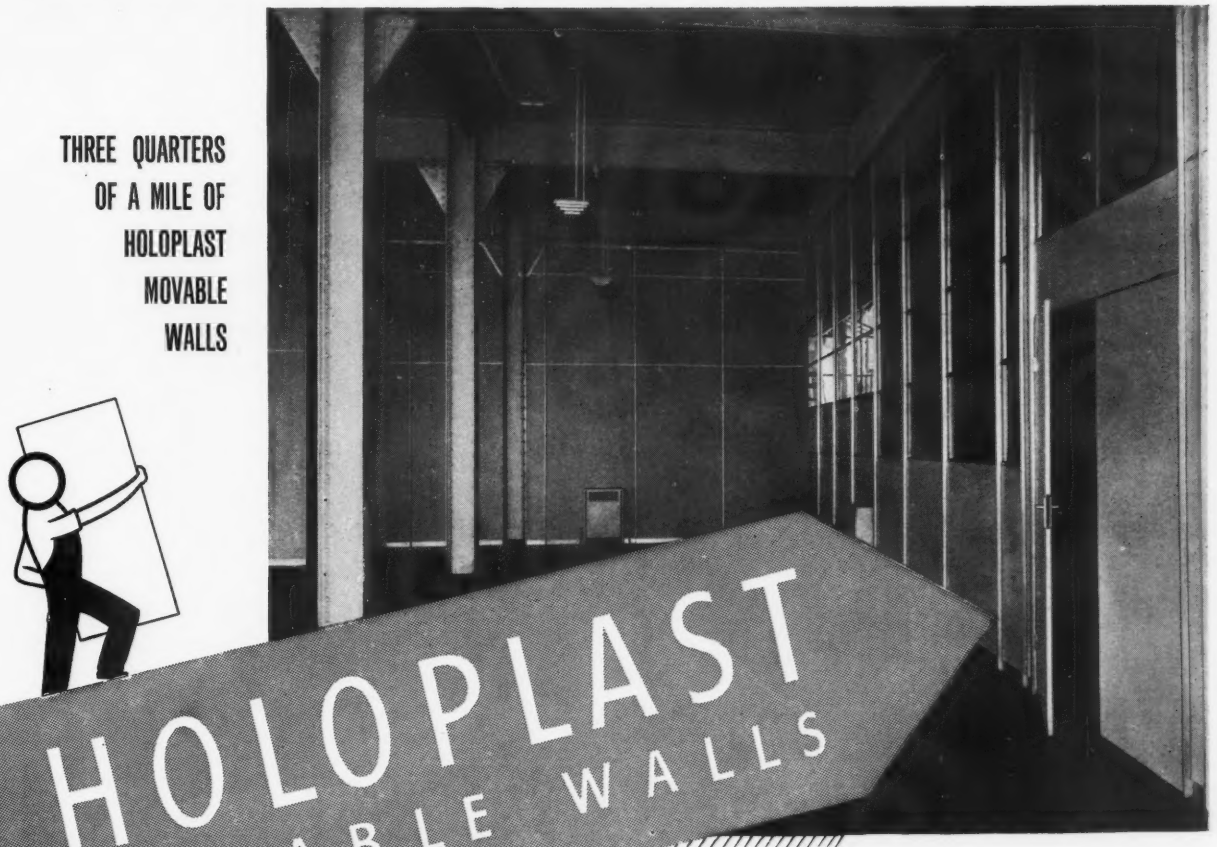

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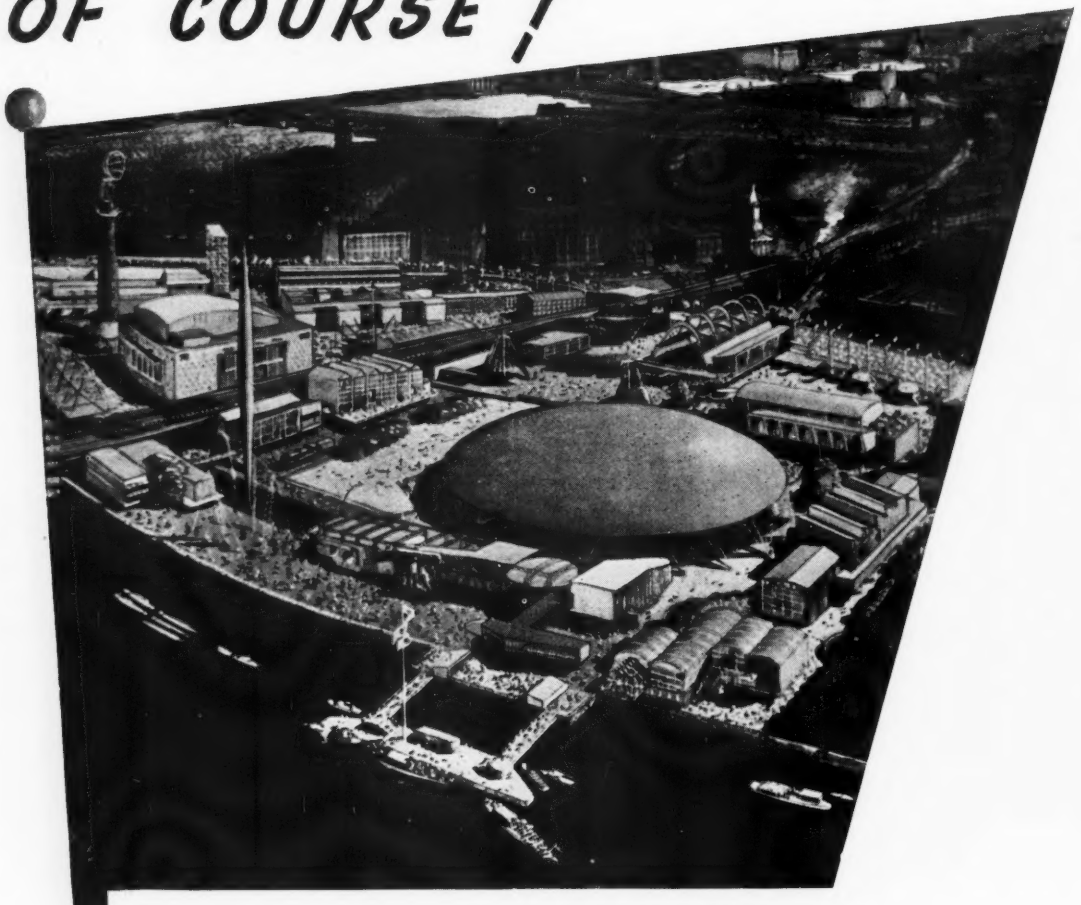

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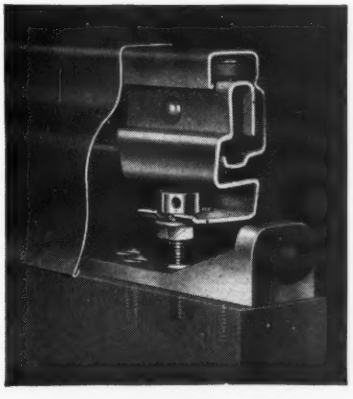

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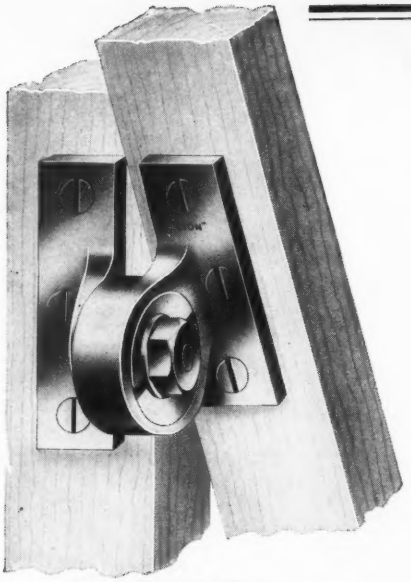

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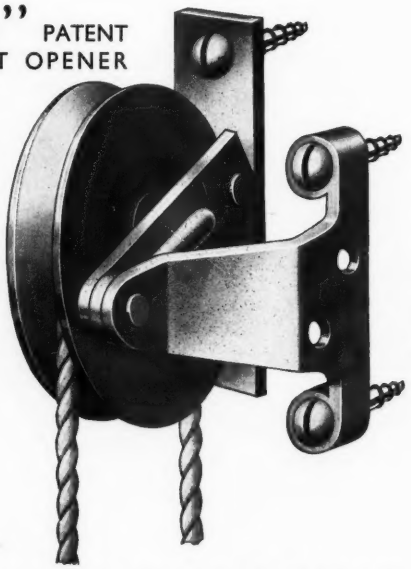

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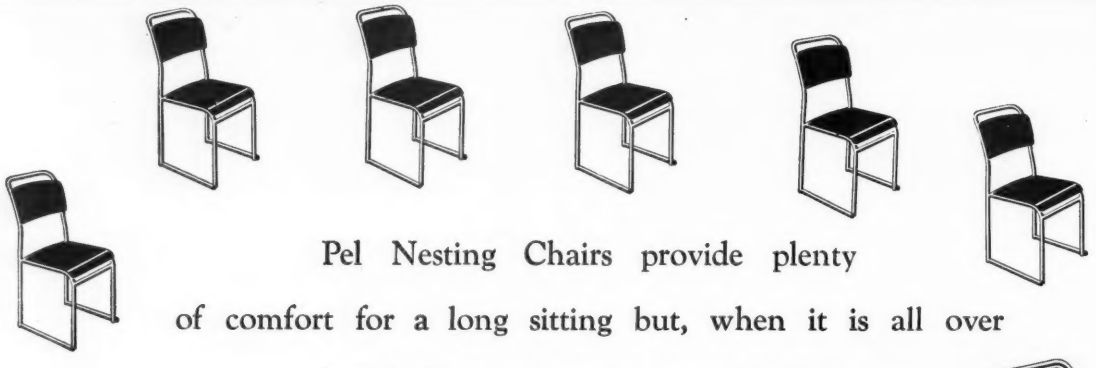

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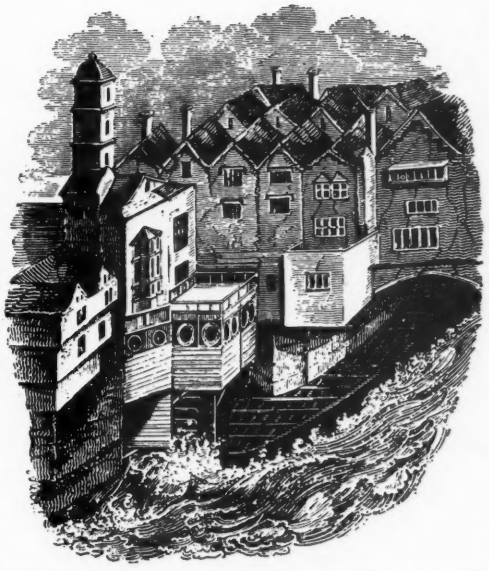

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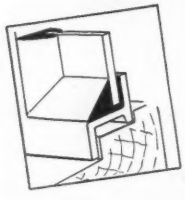

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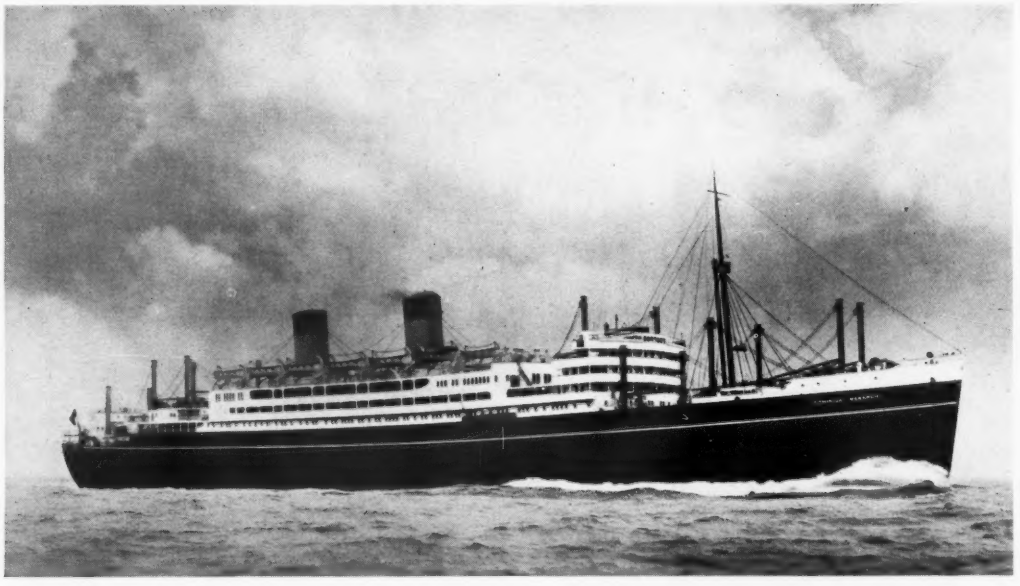

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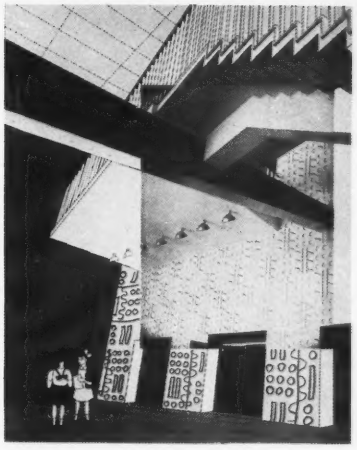
Volume 110 Number 655 July 1951



The Cover is a montage by Gordon Cullen based on a colour photograph of the tiled wall in the Primary School at Lansbury, Poplar, illustrated on pages 7-15. The designer was Peggy Richards who has made a special study of mass-produced pattern techniques for tiles. The colour and effect of liveliness they contribute to this entrance hall (and to the dining room, where another design by the same artist has been used) is particularly appropriate in a school, and is further evidence in favour of an increased use of artists to embellish modern buildings. A certain licence has been taken with vertical perspective in the drawing due to the distortion produced by the camera.

2 **Frontispiece**

3 **Head, Heart and Hand** *by Richard Guyatt* In this his inaugural lecture to the Royal College of Art, Professor Guyatt considers the problems of the commercial artist and more particularly the advertising artist. He begins with the relationship between the fine arts, the applied arts, and the crafts. The obvious common denominator in the work of those active in these three branches of the visual arts is the emotional urge to create; other common denominators are intellect and manual skill. 'A great work of art . . . be it either a painting, or a design, or a piece of craftsmanship, deriving its initial impetus from emotion, is a miraculous blending of emotion, intellect and skill—a wonderfully delicate harmony of head, heart and hand. . . .' But whereas in the fine arts the artist receives the initial inspiration for his work from its content, from what he wants to express, the work of the industrial designer has a function rather than a content and his inspiration comes from a search for perfection of form. That function and perfection of form are not always easy to reconcile is shown in the field of advertising. The function of advertising is to sell goods; yet many good ideas in salesmanship cannot be translated into good designs. The publicity designer 'has to be a bit of an acrobat, he must learn to do the splits, with one foot in the aesthetic camp, and one in the publicity camp.' Both manufacturer and artist, Professor Guyatt concludes, must see the possibilities of good design in good publicity and try to understand each other's problems.

7 **Primary School at Lansbury, Poplar** *Architects: F. R. S. Yorke, E. Rosenberg and C. S. Mardall*

17 **Post-War Housing Estates** *by Lionel Brett* At the beginning of this critical survey of the layout of English housing estates since the war, Lionel Brett asks what it is that has made the general run of council estates all so much alike, and finds the answer in the social idealism of Robert Owen as codified in three-dimensional terms by Raymond Unwin. 'The neat symmetrical paper pattern, which distinguishes the council's manner from the speculator's, dates right back to the days of imaginary ideal communities, model dwellings for the industrious artisan, garden cities.' Among the practical considerations affecting layout the chief are density, orientation and economy, but no matter how carefully a scheme may be designed to take account of these there is still the lie of the land to be reckoned with; much that looks well enough on a drawing-board turns into visual nonsense on the earth's surface, which, in England at any rate, is very rarely perfectly flat. And yet there are certain things which show an increase in average sensibility, says Mr. Brett: one is the effort to retain and incorporate important trees, another the increased use of materials traditional to the locality (though this is by no means the panacea that some have made it out to be), another—and perhaps the most important—the desuetude of the semi-detached house. The chief fault in the schemes reviewed is that 'stiffness, sign of a lack of sympathy between the designer and the public, from which our building has suffered from over a century.'

27 **Prefabricated Housing in British Guiana** *Architect: M. Costello*

31 **The Third Rome** *by Bernard Rudofsky* The first Rome was the city of the Caesars, the second the city of the Popes; the third Rome is, or rather was to have been, the city of Mussolini. In this article Bernard Rudofsky tells the story of this most fantastic project of the twentieth century, which envisaged a gridiron of monumental avenues stretching for fifteen miles from the southern part of the old city to the Tyrrhenian Sea. This story begins in 1935, when it was announced that Mussolini would celebrate victory in Abyssinia, still in the then somewhat uncertain future, by covering a thousand acres with architectural monuments. The Abyssinian war ended in May, 1936, and work began in the following year, the chief planner being Piacentini: the first instalment of the new capital, which through the ingenious expedient of holding a World Fair on the site was to be paid for very largely by the countries which had applied sanctions to Italy during the war it was designed to commemorate, was to have been opened in 1942, the twentieth anniversary of the fascist regime. In the event only a few dozen buildings were started, though some of them are vast enough in scale. Today, unfinished and deserted, they form a dead city unlike any other in the world—as Mr. Rudofsky's photographs, the first ever to have been published, so brilliantly show.

39 **Interior: House at Kingston-on-Thames** *Architects: Tayler and Green*

43 **Wren's Drury Lane** *by Richard Leacroft* The second Theatre Royal, Drury Lane, designed by Sir Christopher Wren, was opened in 1674 and demolished in 1791. During the century of its lifetime it underwent various alterations, of which the most important was that carried out by the brothers Adam in 1775. Enough documentary evidence has survived to enable the author of this article to make a reconstruction of this building and to trace in it the steps by which a Restoration Playhouse became a Georgian theatre. One point that emerges, of special interest in these days of auditorium-stage *versus* picture-frame controversy, is that the picture-frame stage was very largely the result of the management's anxiety to make provision for larger and larger audiences.

47 **Current Architecture**

Miscellany

51 **Street Furniture**

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61 **Marginalia**

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64 **Trade Notes**

68 **Contractors, etc.**

70 **Acknowledgments**

The Authors RICHARD GUYATT, born 1914 in Spain. Worked in an advertising agency and later freelanced in London and Paris. Did camouflage for Ministry of Home Security during the war. Took up exhibition designing after the war and later became a director of Cockade Limited. Was appointed Professor of Graphic Design at RCA in 1948. Recently worked as a Section Designer for the South Bank Exhibition. RICHARD LEACROFT, architect, born 1914. Trained at Northern Polytechnic and AA, 1930-35. Studied theatre decor at London Theatre Studio and worked for some time as a scenic designer. At present Studio Instructor and Lecturer, Leicester School of Architecture. Recently engaged on restoration work at the Georgian Theatre, Richmond, Yorks. Publications include *Civic Theatre Design*, *The Theatre and You* and *Building a House*. PETER VARNON, born 1915. St. Martin's School of Art 1929-32. Has undertaken display work for Rootes Group, Ministries of Information, Food and Works, RAF, GPO, CID and Festival of Britain. For some years has collected reference material of public lighting equipment—sketches, photographs, engravings, including lamps and columns themselves. An Associate of the Association of Public Lighting Engineers.

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FIVE SHILLINGS

More ghostly than any archaeological excavation, more desolate than any city ruined by war or time, is Mussolini's intended world capital of Fascism. Standing a few miles from Rome on the road to Ostia, this abandoned city enclosed by barbed wire and patrolled by armed guards is seldom visited. The macabre horse in the photograph prances, headless and riderless, before the Palace of Italian Civilization. On pp. 31-37 *Bernard Rudofsky, who recently gained access and took some of the first photographs of the third Rome ever to be published, describes its history and its impact on the visitor today.*

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Richard Guyatt

HEAD, HEART AND HAND

I have set myself the task of trying to define the relationship between the fine arts, the applied arts, and the crafts, in the hope that this will enable me to express my views clearly on commercial art.*

To study any one particular branch of art without relating it to the whole activity of art leads nowhere—worse than that, it leads in the wrong direction. It would be like a man who had never seen a tree, but who found a twig and who became absorbed and fascinated by that twig, who studied it, dissected it and produced theories on the purpose of twigs, theories which, from the vantage point of knowing that trees exist, would appear ludicrous. So I will attempt here to examine the whole tree of art, before considering the twig of commercial art.

For me, the definition of art lies in its practice. For the practice of art is an approach to truth, a search for an aspect of truth, a search to sense and capture the underlying laws and harmonies which create and govern life on this planet in such a miraculous way. It is a search to understand and to feel more deeply, to find true relationships and values and to enrich the soul by trying to penetrate the wonders which surround it. Great works of art—in any medium, be they music, writing or the visual arts—are works of understanding, which can illumine aspects of the world for ordinary mankind. In order to relate the various branches of the visual arts to this concept, let us look for common denominators in the work of the fine artist, the designer and the craftsman. One stands out clearly. They all desire to create objects, be they pictures, candlesticks, chairs, or exhibitions, and their creations depend initially on this emotional urge to create.

Two other common denominators are intellect and manual skill. By intellect I mean primarily the ability to reason, to plan and to organize. Reason in a work of art should always be discreetly present to guide and discipline the emotions. Without this faculty an artist would be unable to translate what he understood emotionally into his given medium. In a certain, delicate, sense he has to rationalize his emotions—that is give them expression in a certain form. This admixture of reason to the emotions gives coherence and stability to his perceptions. But an artist, however strongly he feels, however keenly he thinks, is still quite impotent, if he has no manual skill at his disposal. His skill, his technique, must be of such an order that it can perform accurately the tasks set it by the emotions and the intellect. In great art it plays the role of the intelligent servant.

A great work of art, then, be it either a painting, or a design, or a piece of craftsmanship, deriving its initial impetus from emotion, is a miraculous blending of emotion, intellect and skill. A wonderfully delicate harmony of head, heart and hand, balanced in a

* A shortened version of the inaugural lecture given by Richard Guyatt, Professor of Graphic Design at the Royal College of Art, South Kensington, on November 28, 1950.

perfect and particular order. Now it is in the balance and the order and the interplay of these faculties that we can see the relationship between the painter, the designer and the craftsman. In the very finest expression of their work all three are artists. But of course a difference of kind and degree obviously does exist between them. To find and see this difference, and the interplay of these faculties, we must return to the emotions which give the initial impetus to their creations.

In the fine arts this impetus lies in their content. It is the content of the painter's work, or what he has to say, which inspires him: and what he wants to say he finds in his heart.

For the designer it is different. His work has a function rather than a content. The function can range from a decoration to delight the eye to a teapot that pours without dripping. But the designer does not derive the main emotional force for his creative work from considering its function. I believe that it comes from a search for a perfection of form. His language is one of proportion, of shape, of pattern and of line and he approaches his truth in these terms. No great designer ever produced a form which outraged the basic forms of nature, for basic natural forms are always his absolute. Function, of course, plays a big part in his work—and this is the intellectual side of his job. The designer of a chair realizes, of course, that his chair will have to be sat on, but the emotion he generates within himself while actually designing must come from seeking a form which will not only satisfy the requirements of function, but which will satisfy his search for aesthetic perfection. And though the field of design is so very wide that it is obviously dangerous to generalize, I think it safe to say that the designer's work is more intellectual, that it has more reason in it, more head, than the work of the fine artist.

The main emotion in a craftsman's work springs from the employment of his skill—from the use of his tools and materials to their best advantage, from the meticulous perfection in his handling of them. As Andre Malraux has said, his concern is to reproduce forms rather than to create new ones. But if his work is of the highest quality, it ceases to be judged as craftsmanship and deserves to be praised as a work of art. It can pass from the realm of craftsmanship—from the level of manual skill only—to the realm of art. There are many highly skilled forms of craftsmanship—such as those employed in the making of a railway engine—which can never penetrate into the true realm of art because their aim is purely functional. For craftsmanship to become art something more is needed —it must be allied to an emotional understanding of beauty.

Before examining the twig of commercial art, it should be stressed that the whole tree of art, like any other, reacts to the conditions in which it grows. The soil and the climate determine its fruits. And the soil and climate of art is the society it grows in. We may theorize about the mainsprings of art, but society holds out to the artist only a few certain channels for the expression of his art. Suppose one takes the whole of society as a human being—then the artists are his eyes. They are part—an integral part—of the whole, and they have no separate life of their own. Just as a man can use his eyes for a variety of purposes, so can society use artists. At one end of the scale he can use them to see and delight in the beauty around him; at the other end of the scale he uses them in a matter-of-fact way for his material needs—for catching buses or to avoid tripping up. In an exactly parallel way society can use artists. Society, by economic pressures, can use its artists to design posters explaining where to catch buses or the virtues of non-skid shoes, or it can demand of the artists the nobler and more inspiring pursuit of enlightening the whole community. But a man, of course, however enlightened he may be, has to use his eyes for a variety of purposes—for catching buses as well as for seeing beauty. What matters is how often he uses them for seeing beauty and the significance he attaches to it. That tells one what sort of a man he is—just as the use made of artists by a society tells one a great deal about that society.

Now what sort of society do we live in to-day? Broadly speaking it is a civilization whose main love and interest is science and technology; its achievements lie in this direction. It is a civilization that is engrossed in its material needs. And the result, which is to be expected, is a long train of ugliness created by this century old production drive. This production drive has needed a vast number—a number increasing and multiplying as it has

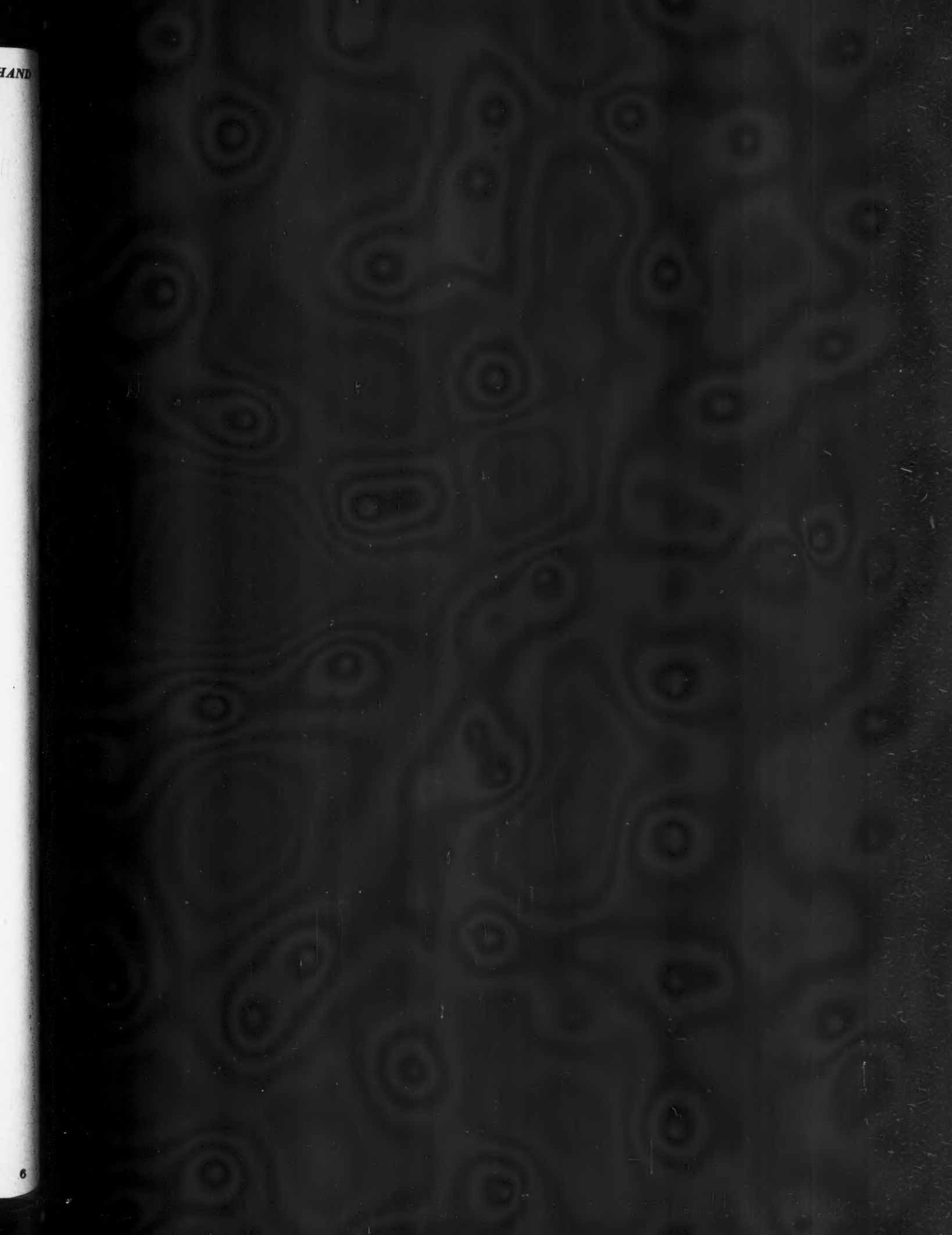
gathered momentum—of industrial designers, typographers, printers, advertising agents, exhibition designers, etc., to help it in its headlong journey. In fact for this journey, a corner seat has been reserved for the commercial artist—he is really needed there as part of the outfit. The fine artist is left to fend for himself—with luck standing in the corridor—because he is not really needed.

Commercial artists can be divided into two groups: those who help in the actual production of goods, that is those who work as industrial designers, and those who help in distributing goods—that is those who work as publicity designers. For the purposes of this study I am concentrating on the publicity designer. His is a queer position. As a designer his inspiration comes from delight in form, in searching for harmony and proportion. As a designer he also has to deal with function—which in this case is selling. But, unlike the industrial designer—the designer of the chair for example—he has on top of this to deal with content. This puts him in a different category, into a sort of no-man's-land, midway between the painter and the designer. And because of this, often through no fault of his own, he comes a cropper. What he has to say—the content of his work—is usually thought up by somebody else and it is usually cheap and vulgar. But why is this? And speaking in aesthetic terms why is the good poster or press advertisement so rare? Let us go into this question a little more deeply. The function of advertising is to sell, and it is the advertising agent who knows all about the psychology of salesmanship. Out of this knowledge he builds up his elaborate organizations of copy-writers, ideas men, layout men, contact men, etc. But really his skill lies in catching flies, and advertising is a fly-paper game with variations on the theme of glue. The Advertising Agent mixes up his glue very shrewdly, a nice tasteful glue to catch the refined fly, and a good old vulgar glue—which is very tough stuff indeed—to catch the vulgar fly. This is, of course, plain common sense and it is called being 'realistic'. But this fly-catching game can range from parading giant cheeses through the streets—as Sir Thomas Lipton did in Liverpool—to posters displaying, in a strangely stereotyped convention, the charms of sexy young women. And it is obvious, from the evidence around us, that good pictorial salesmanship does not depend on aesthetics. That Art and Selling are two very different things.

Where does the designer—sensitive, serious-minded, and extremely interested in aesthetics—come into all this? He has to be a bit of an acrobat, he must learn to do the splits, with one foot in the aesthetic camp, and one in the publicity camp. Sometimes, given the right conditions, he can draw the two together, but in the majority of cases this turns out to be impossible. His interest, of course, is centred on the foot, which he tries, manfully, to keep in the aesthetic camp. But it is very difficult for him to keep his balance. The pull on the publicity foot is very strong indeed. Say he gets a commission to do a poster for a firm of sweet manufacturers. He knows that the point of the poster, the reason it is being produced, the reason he has been commissioned to design it, is to enable the manufacturer to sell more sweets. Now this idea, though exciting to the manufacturer, cannot be expected to provide much emotional stimulus to the designer. He'll take it on (if he needs the cash) and, if his life hasn't reduced him to the level of the complete hack, he will engender in himself a certain emotional tension, by trying to arrange the elements of the design as harmoniously as possible. That is his real job as a designer—to create an object pleasing to the eye. But this is very difficult because of all the other considerations which come crowding in. He knows—only too well—that the manufacturer will want his name as large as possible, and that he must use a certain name-block which he himself may dislike intensely. Because of course, a name-block, however hideous it may be, has great commercial value if the public has become used to it. The designer knows it is not his business to improve it, for this change for the better—aesthetically—might only disturb and frighten the fly. He gets handed a slogan which must be incorporated in the design around which to build up his idea for the poster. Now this will be the poster's content and the slogan he gets to play with may be—to quote one which is up on the hoardings at the moment—'Ooooh—the mint with the hole'. A slogan like this, for all I know, has great sales appeal—but it is a difficult one for the designer. How should, for example, these compelling words be lettered? Would it look well drawn in a beautiful and dignified letter? No, his experience tells him that somehow that would not be suitable—that it is up

to him to evolve a letter form to match and express the sentiment behind these words. So, after much labour, he evolves a zippy yet coy type of letter—a lettering to harmonize with the content. He also knows he must restrict his use of colour on account of expense and yet he knows that he must be as strident as possible so as to shout down neighbouring opposition—so that it is his poster which will catch the casual attention of the passer-by. But this question of catching people's idle attention is in itself fascinating and revealing. For true art demands an *effort* of attention on the part of the spectator. His casual interest may well be caught by the superficial qualities of a painting but its content will not reveal itself unless he makes a further effort of appreciation. This even applies to those with faculties and sensibilities educated in the appreciation of art. But the poster or press advertisement has to tell its story and catch the attention of the ordinary person—that is the person who is not at all interested in art and not at all interested in buying—in such a way that he has to make no effort. You really can't expect a fly to make an effort to be caught.

These are some of the many considerations which make it difficult for the publicity designer to produce a work of art—on however modest a scale. The main difficulty, often insurmountable, is the idea behind the poster or press advertisement. And it is here, I think, that we can see most clearly the clash between the man whose main interest is art, and the man whose main interest is selling. For many good ideas in salesmanship cannot be translated into good designs. Aesthetically they are too trivial. In just the same way many good designs aesthetically are bad as salesmanship. Commercially they are too high falutin'. The problem which faces the designer is how to bridge this gap. It can be done, of course, but if it is to be bridged at the level of good design, then the ideas and feelings behind the poster or advertisement must be of a quality suitable to justify and inspire it. Good design and good publicity are not synonymous for it is quite obvious that you can get very good publicity from very bad designs. The problems I have touched on only rear their heads if and when you try to marry the two. And, as in all marriages—if they are to be really successful—both sides must want to be married. This means that both sides—the manufacturer and the artist—must see the possibilities of good design in good publicity—and this will only happen when the man in the street demands it.

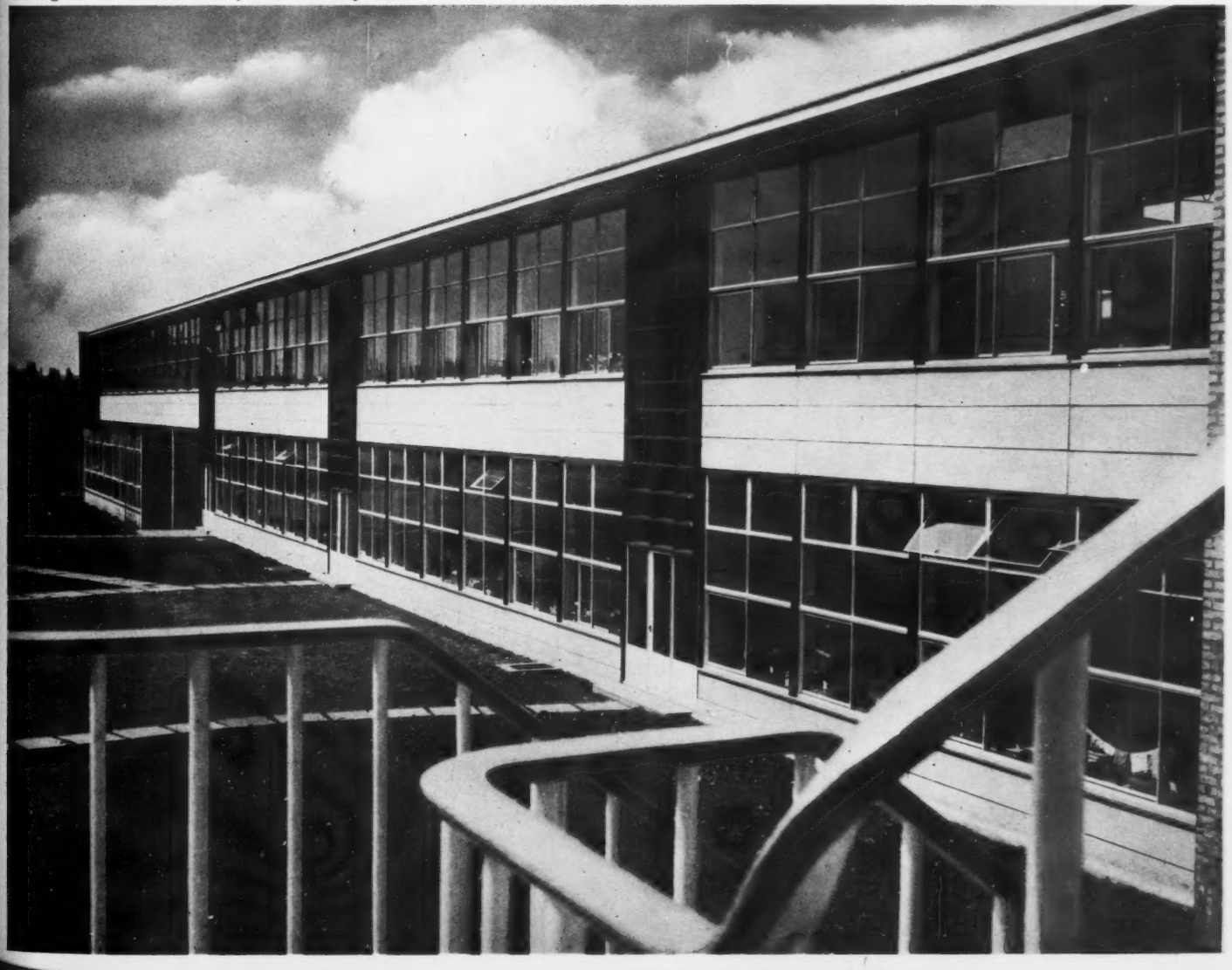


PRIMARY SCHOOL AT LANSBURY POPLAR

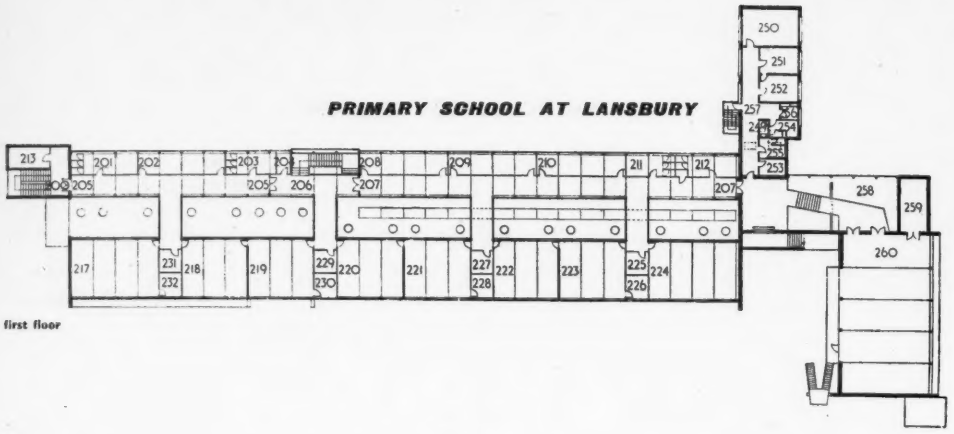
F. R. S. YORKE, E. ROSENBERG AND C. S. MARDALL: ARCHITECTS. K. W. Grieb: Assistant in Charge

The new Ricardo Street Primary and Nursery Schools occupy an island site of three acres including that of an old school which was destroyed in the 'blitz'. They form part of the Lansbury neighbourhood in Poplar, the site of the Festival of Britain Live Architecture exhibit. The buildings are free standing towards the north of the site to give open space on the south. A paved court at the north-east corner of the site will form part of a new square and from this is the main entrance to the assembly hall block. The nursery school wing is not yet completed.

1, the classroom block seen from the staircase leading out of the first floor junior assembly hall.



PRIMARY SCHOOL AT LANSBURY

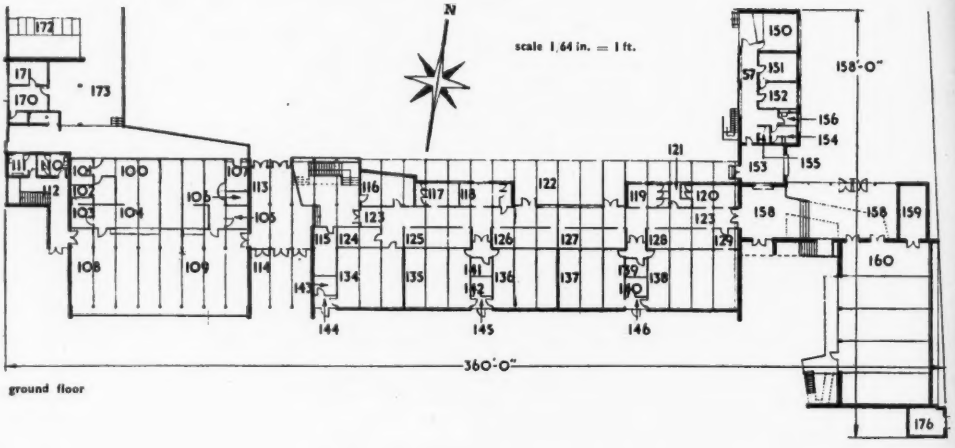


first floor

2, entrance to the assembly hall block.

KEY

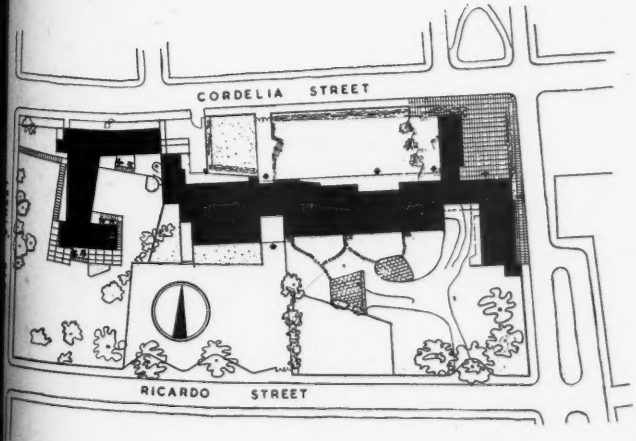
100 kitchen. 101 larder. 102 dry store. 103 kitchen staff. 104 wash up. 105 supervision. 106 129 225-232 253 stores. 107 veg. store. 108 junior dining. 109 infants. 110 117 119 203 211 girls' lavatory. 111 118 120 201 212 boys' lavatory. 112 corridor and stairs. 113 158 entrance halls. 114 porch. 115 general store. 116 medical inspection. 121 155 249 cleaner. 122 covered play area. 123 157 207 257 corridors. 124 drying room. 125-128 202 208-210 coats. 134-137 218-223 classrooms. 138 217 224 general purpose. 139-143 classroom stores. 144 lobby. 150 250 staff rooms. 151 secretary's room. 152 252 head's room. 153 waiting space. 154 254 women's lavatory. 156 256 head's lavatory. 159 259 chair store. 160 infants' assembly hall. 170 caretaker's room. 171 meters. 172 fuel hatches. 173 kitchen yard. 174 boiler room. 175 fuel store. 176 transformer. 200 landing. 206 staircase and landing. 213 drying room. 251 assistant head's room. 255 men's lavatory. 258 upper part of entrance hall. 260 junior assembly hall. 361 tanks. 350-360 caretaker's flat.



ground floor

3, the classroom wing from the south-west. The wall-facing between floors is of spar-faced concrete slabs.

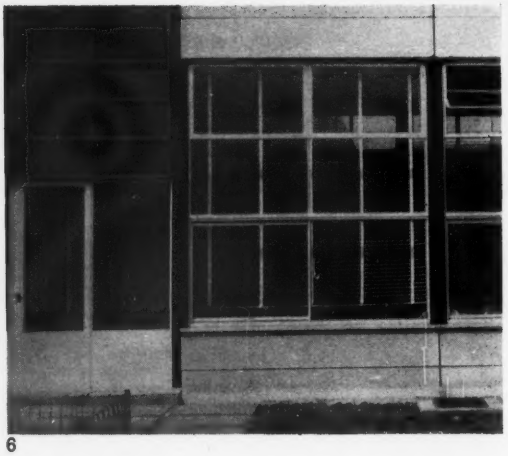
4, the copper-roofed staircase which links the ground and first floor corridors at their east end. The assembly halls are on the right; the infants on the ground floor and the juniors on the first.



the primary school accommodates 320 juniors and 200 infants. It is planned on two floors, the juniors occupying the first floor in eight classrooms and the infants the ground floor in five classrooms. The remainder of the ground floor of the classroom block is occupied by the common dining-room and kitchen. The two assembly halls are placed one above the other, approached directly on each floor from the classroom block, and both from the common main entrance. The administration block forms a wing projecting north at the junction of the classroom and assembly hall blocks, and the staff are accommodated on two floors approached directly from each school. The second floor of this block forms a

5, the 'link' staircase from the assembly hall balcony staircase. 6, detail of the south façade of the classroom block. The vertical glazed panels above the doors, which occur at regular intervals along the wall, are framed in wood.

5

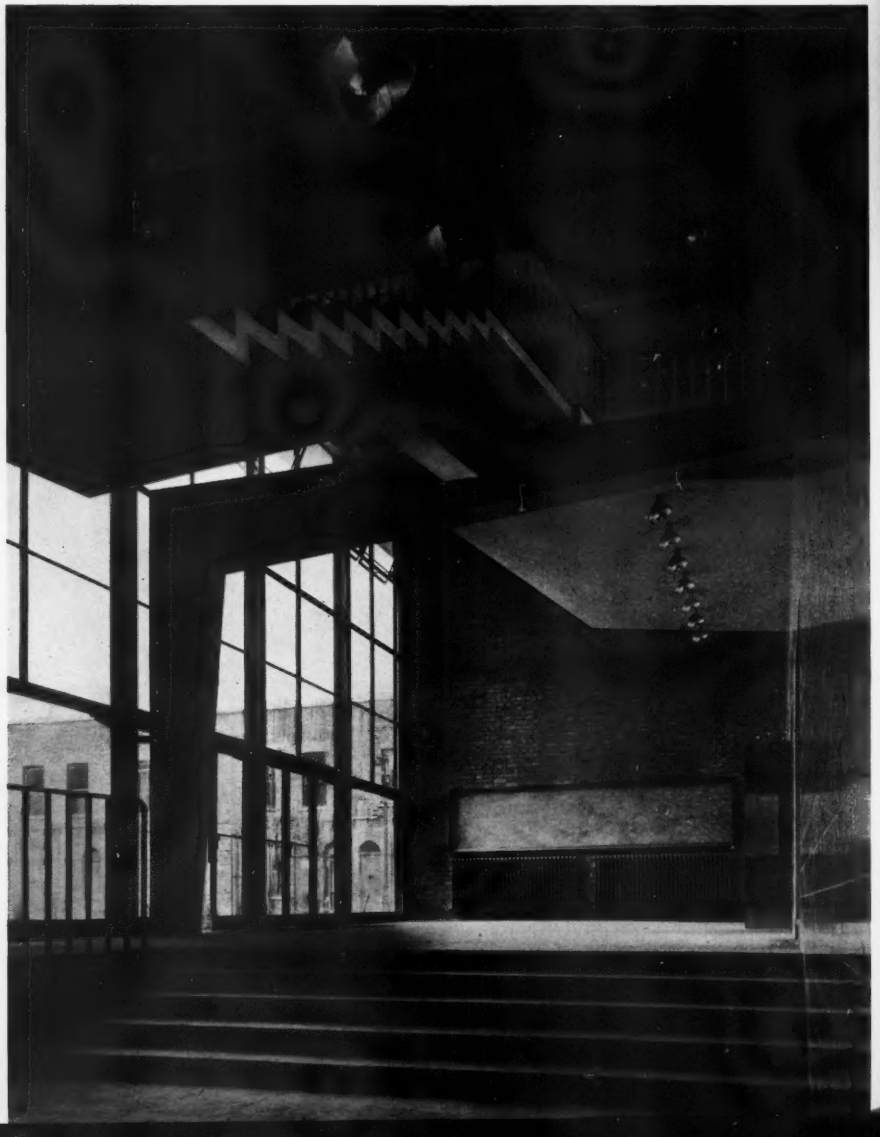


6

PRIMARY SCHOOL AT LANSBURY

7, the main entrance with its fly-over staircase leading to the first floor junior assembly hall.

7



8

8, the fly-over staircase from the balcony landing over the entrance hall; on the right is the tiled wall designed by Peggy Richards and illustrated in colour on the cover. 9, the upper part of the entrance hall looking towards the all-glass, north wall.

9

caretaker's flat. The classroom block is so designed that both ground and first floor classrooms and lavatories get cross lighting and ventilation, the first floor classrooms being approached by bridges across a light well. The paved playing areas for juniors and infants are separated, the juniors on the south side and the infants on the north. Each is separately approached from the classrooms. Quiet garden and outdoor teaching areas are provided on the south side of the ground floor classrooms and outside the assembly halls.

the nursery school occupying about .84 acre, will accommodate 80 children and is a separate single storey build-

10, first floor landing of the main staircase in the classroom block, with a view through to one of the bridges between classrooms and corridor.

ing, self-contained except for sharing the mechanical services with the main school. It consists of two groups of one large and one small playroom, with lavatory accommodation, sharing in common the staff rooms, entrance hall and kitchen. The nursery school will have entirely separate paved play spaces, sand pits and garden.

construction The classroom block is planned on an 8 foot 3 inch grid and constructed with a light welded steel framework, faced externally with 8 foot 3 inch by 1 foot 4 inch by 2½ inch spar faced concrete slabs. Floors and roofs are formed of precast concrete units spanning between beams. The steelwork of the ground floor is protected against fire by gypsum plaster on expanded metal. All ceilings are of wood wool. The ends of this block are stopped by yellow stock brick

11

PRIMARY SCHOOL AT LANSBURY

13

11, the bridges between classrooms and first floor corridor. The roof is that over the ground floor coat rooms. 12, entrance hall and staircase in the classroom block; the floor is finished with Hornton stone slabs. 13, the staircase linking the ground and first floors of the assembly halls entrance.

12

14

14, the dining room; the screen on the left divides the junior and infant sections. The wall on the right is faced with tiles designed by Peggy Richards. 15, one of the ground floor classrooms and 16, the ground floor corridor; the infants' playground is through the door on the left. 17, on the facing page, two infants' classrooms; the glass doors lead to outdoor paved teaching space.

15, 16

PRIMARY SCHOOL AT LANSBURY

walls. Similar bricks are used as the structural material for the remainder of the building except the assembly hall group which is constructed of reinforced concrete and steel with stock brick and Hornton stone facing and roofed with copper on low pitched steel trusses. The administration block is constructed of load bearing

17

yellow stock brick walls and hollow pot floors and roof. Except for the assembly hall the main building is covered with built up bituminous felt roofing with spar finish on ½ inch insulation board. Windows of the administration block are of extruded aluminium in wood frames, all other windows are zinc sprayed steel. Heating of all classrooms is by floor panel. Hot water radiators or coils are used elsewhere.

The nursery school is built of load bearing stock brick walls and light steel frame combined and is covered by a one-way pitched roof of copper, in other respects it is similar to the main building.

post-war housing estates Since the end of the war well over a million houses accommodating a population of more than three million souls have been built in England, Scotland, Wales and Northern Ireland. Wherever you go evidence of this immense building effort is at hand. And evidence with it of an immense blindness to all the decencies of landscape architecture, both urban and rural. Our age already ranks alongside the late Victorian for the crimes it commits against the land surface (higher though the actual housing standards may be). Fortunately exceptions do occur. It is hard to imagine for instance that the two examples below, the first built in 1946 in north, and the second in 1949 in south, Wales, are so close in time and space. The first hugs the slope of the hill; its houses are terraced and gaily painted in different colours; its bastioned flagpoles provide accents in a landscape both subtle and simple. The second brutally knifes the contours; its houses of dismal brick and pebble dash are scattered with a macabre symmetry to a plan that must surely have been inspired by a railway accident. On the next pages Lionel Brett launches an inquiry into this and similar disasters and suggests some ways to avoid future ones.

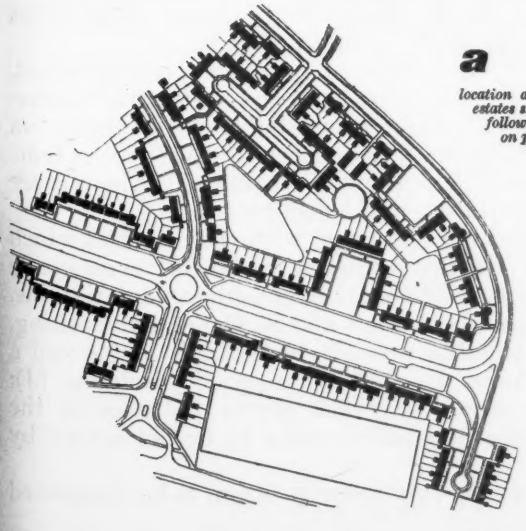
Lionel Brett

Never before has the contemporary aspect of the visual arts in Britain received so large a proportion of the available space in newspapers, magazines and the minds of the public as it has during the past two or three months. Painting, sculpture, even (though to a far lesser degree) architecture, have become—if only for the brief season of the Festival—subjects of general interest and lively discussion. Yet there is one art, in its most complete manifestations uniting the other three and thus more truly the mistress art than architecture itself, which remains unpublicized and uncriticized though by its nature always on show—the art of townscape. At the best or worst of times, in war-time when any active practice of the art was in abeyance, such indifference would be a serious matter: today it is trebly so because, although few people have woken up to the fact, whole new townscapes, adding up to a very considerable total, are at this moment in the process of creation throughout the length and breadth of the land. In this article Lionel Brett distinguishes the tendencies that go to make them what they are and examines them from the point of view of a critic concerned with æsthetic quality.

POST-WAR HOUSING ESTATES

What ancestral voices whisper in the ear of a council surveyor sitting down to plan a new housing estate? What pattern has made them all so much alike? Whence, in particular, the kind of baby *Beaux Arts* tradition in which so many are conceived? These questions seem to need answering before we can assess the bricky harvest now ripening in so many English fields.

The pedigree of A (dateless, nameless example which can stand for them all) could be written at any length, or very briefly as By Raymond Unwin Out of Robert Owen. The neat symmetrical paper pattern, which distinguishes the council's manner from the speculator's, dates right back to the days of imaginary ideal communities, model dwellings for the industrious artisan, garden cities. When Unwin came to codify in three-dimensional terms the social idealism of two generations, this terribly precious symmetry overcame his intuitive perception of the virtues of informal planning, and his explorations of German medieval towns, his rediscovery of Camillo Sitte, had no influence at all.

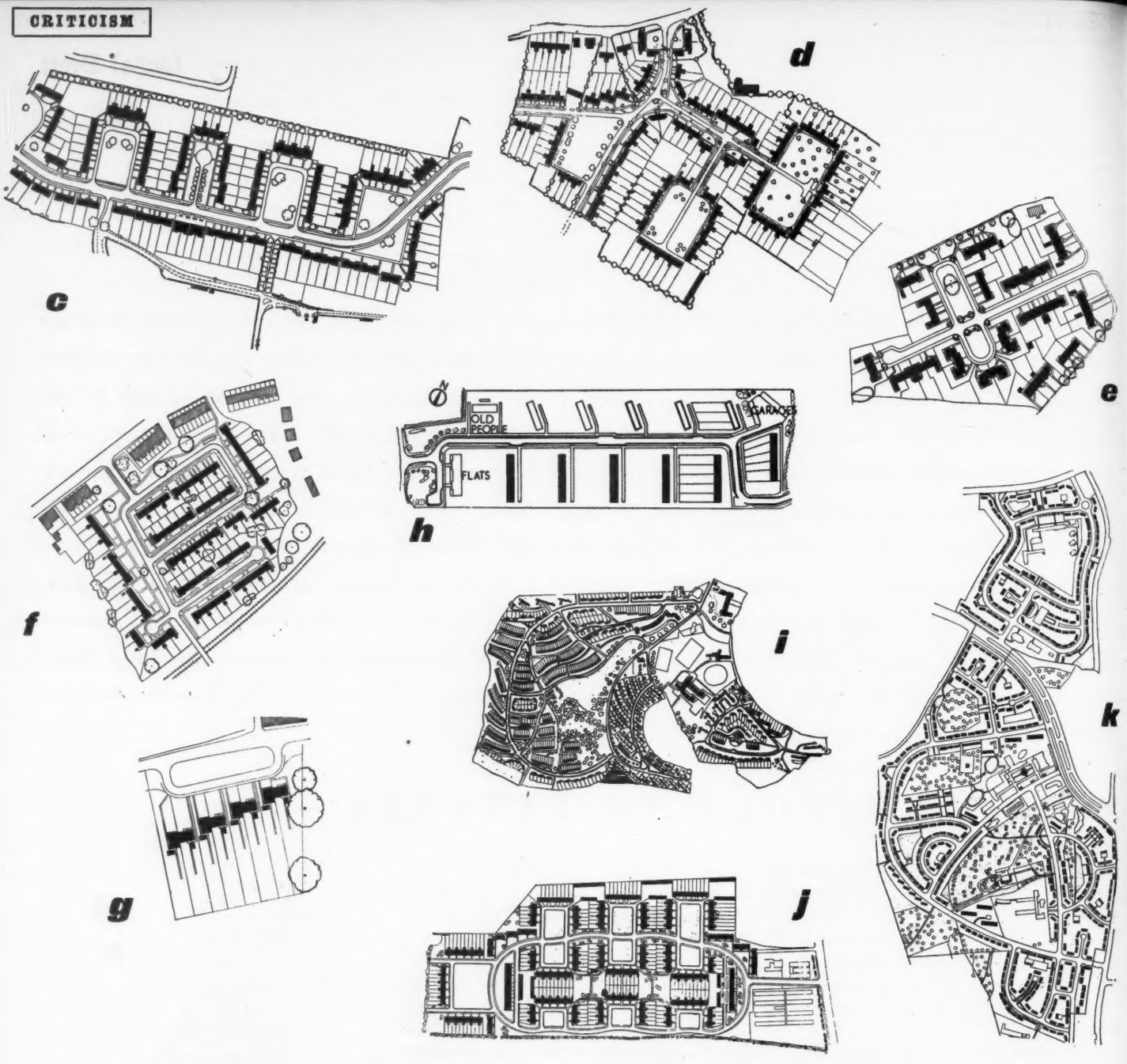


a

location and designers of the estates shown on this and the following pages are given on page 70.

b

This is much the strongest voice of all. It is responsible for the dullness of B, the correctness of C, the



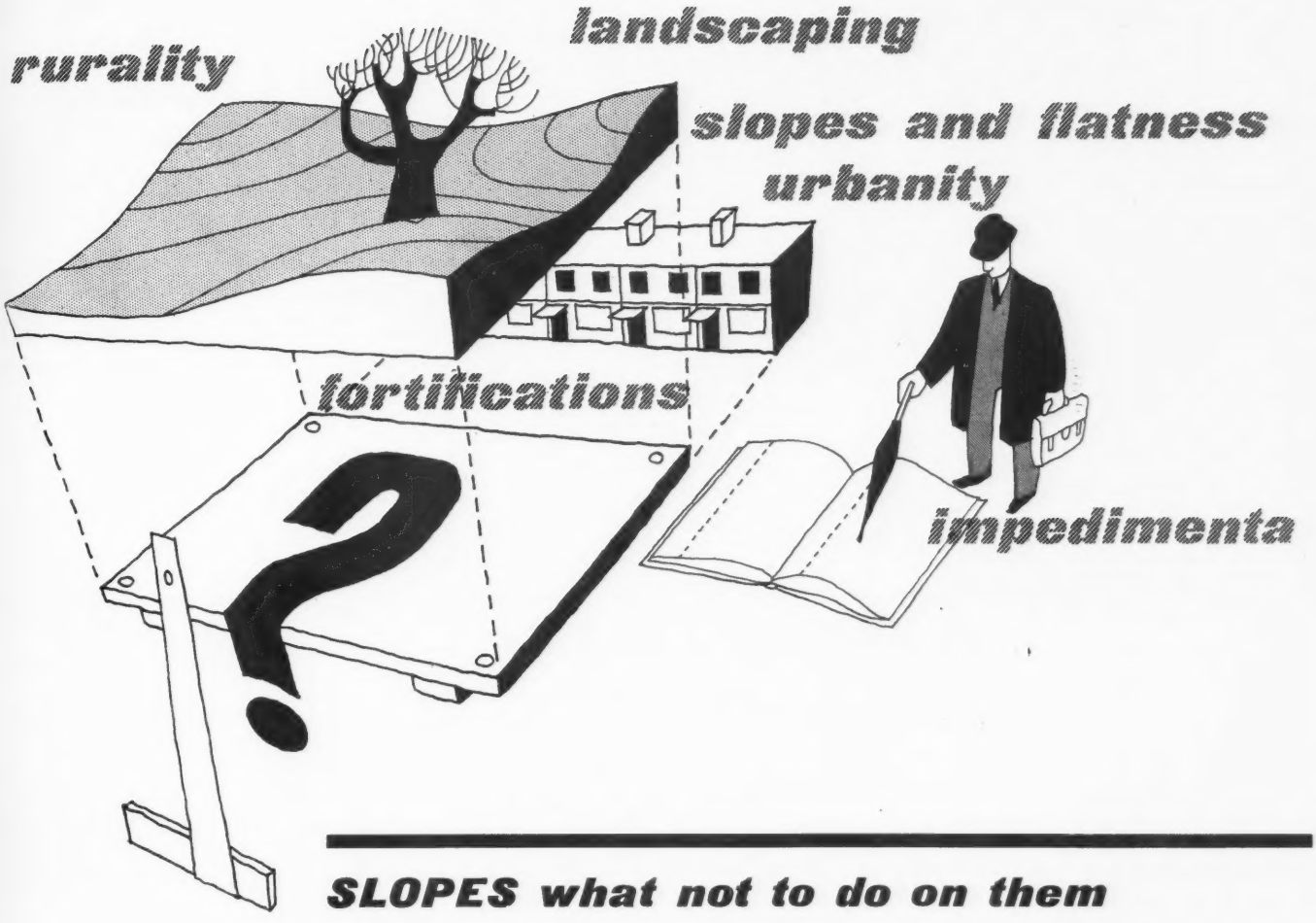
charm of D, the rigidity of E and of any number of other contemporaries. It became so characteristic of English state-aided housing that the middle-class, or those who built for them, felt obliged to express their separateness by wavy roads, so that the superior suburb can be as easily identified on the map as the Georgian quarter or the bylaw belt.

To these two tendencies, formal and informal, which are for ever at war in the British architect's breast, must be added a third, whose origin is more recent and whose existence so seldom recognized that there is not even a word for it—except perhaps the German *Zeilenbau*. It is the tendency to a serial rather than an axial or organic pattern. It originates partly in science (the simplest way of getting ideal orientation is to face all the buildings the same way), partly in art (the machine's influence on pattern is inevitably repetitive). In other words, to our generation it works well and looks well. It can be seen quietly at work in F and G, more positively in H, more sensationally in I, where it combines with other influences, both æsthetic and practical.

For, after all, there are practical considerations, and it is time to turn to them. A symmetrical scheme cannot possibly have been dictated by them; an informal scheme may have been; a repetitive scheme must have been. The three that most affect layout are Density, Orientation and Economy.

We are not here concerned with the densities which can only be reached by using flats. But even inside the low density field there are considerable variations, as, for instance, between J and K. Generally speaking, the higher densities necessitate the right angle and a certain stiffness which is often good discipline (J); it is much easier to invent pretty patterns at the lower densities and much easier to be led astray by them (K).

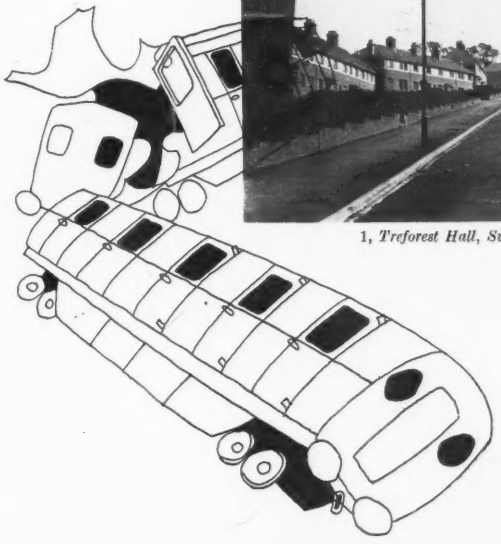
Orientation has only recently begun to be considered



SLOPES what not to do on them

1, *Treforest Hall, Swansea: Architect, Ernest Morgan.*

2, *Ottery St. Mary, Devon: Architect, Antony Lamb.*



To ignore the lay of the land invites disaster. It is no good designing squares and vistas that look fine on the drawing-board only to find that the gentle slopes which crop up so often in England have made nonsense of them.

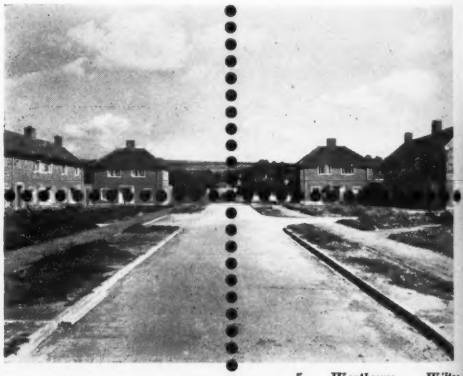
3, *Bath: Architect, J. Owens.*

4, *Llanwrst: Architect, S. C. Foulkes; Landscape Architect, Bodfan Gruffydd.*

On the other hand, as these two pictures show, respect for the sweep of nature (on which man places his ephemeral dwellings) is well repaid. On the left a giant staircase; on the right a scheme moulded to the contours.

FLATNESS and how to exploit it

Any surface, flat or undulating, can have its contour emphasized by a line drawn on it (e.g. a ribbon of road in the Highlands). The axis of a symmetrical scheme is such a line on flat ground, induced by symmetry and continuing out beyond the buildings to the horizon.

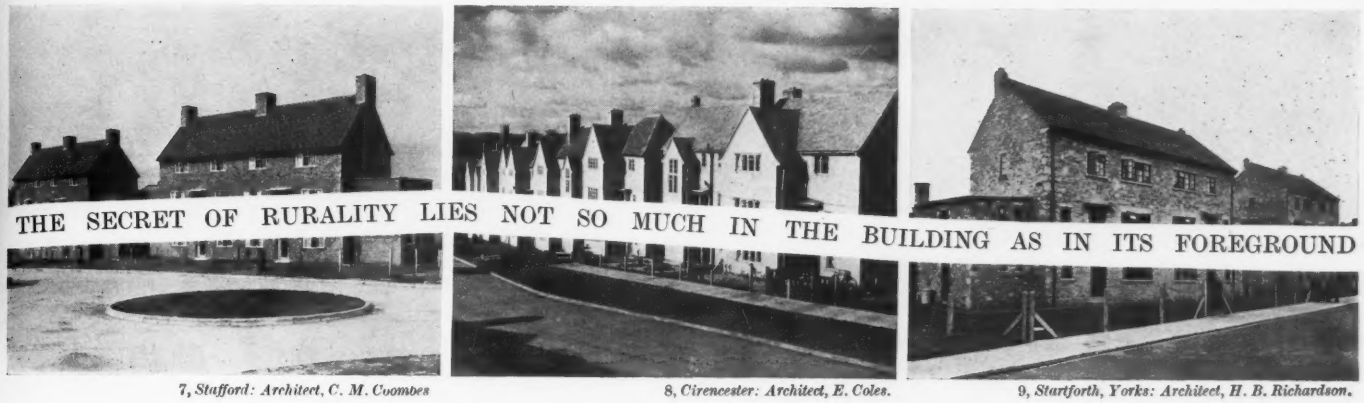


5 *Westbury, Wilts: Architect, G. Blair Imrie*

6, *Ditchingham, Norfolk: Architects, Tayler, and Green.*

Alternatively, as below, buildings can themselves provide the emphasis. Here they extend over the ground in long terraces, stressing flatness and making a virtue of it (imagine how dull would have been the effect if semi-detached houses were spotted about).

RURALITY is it achieved by architecture?



THE SECRET OF RURALITY LIES NOT SO MUCH IN THE BUILDING AS IN ITS FOREGROUND

7, *Stafford: Architect, C. M. Coombes*

8, *Cirencester: Architect, E. Coles.*

9, *Startforth, Yorks: Architect, H. B. Richardson.*

The three views above show the importance of foreground. Not that the buildings are themselves rural in character, yet they could easily seem to be so had they not been betrayed by concrete posts wired together, desolations of tarmac and art stone pavements.

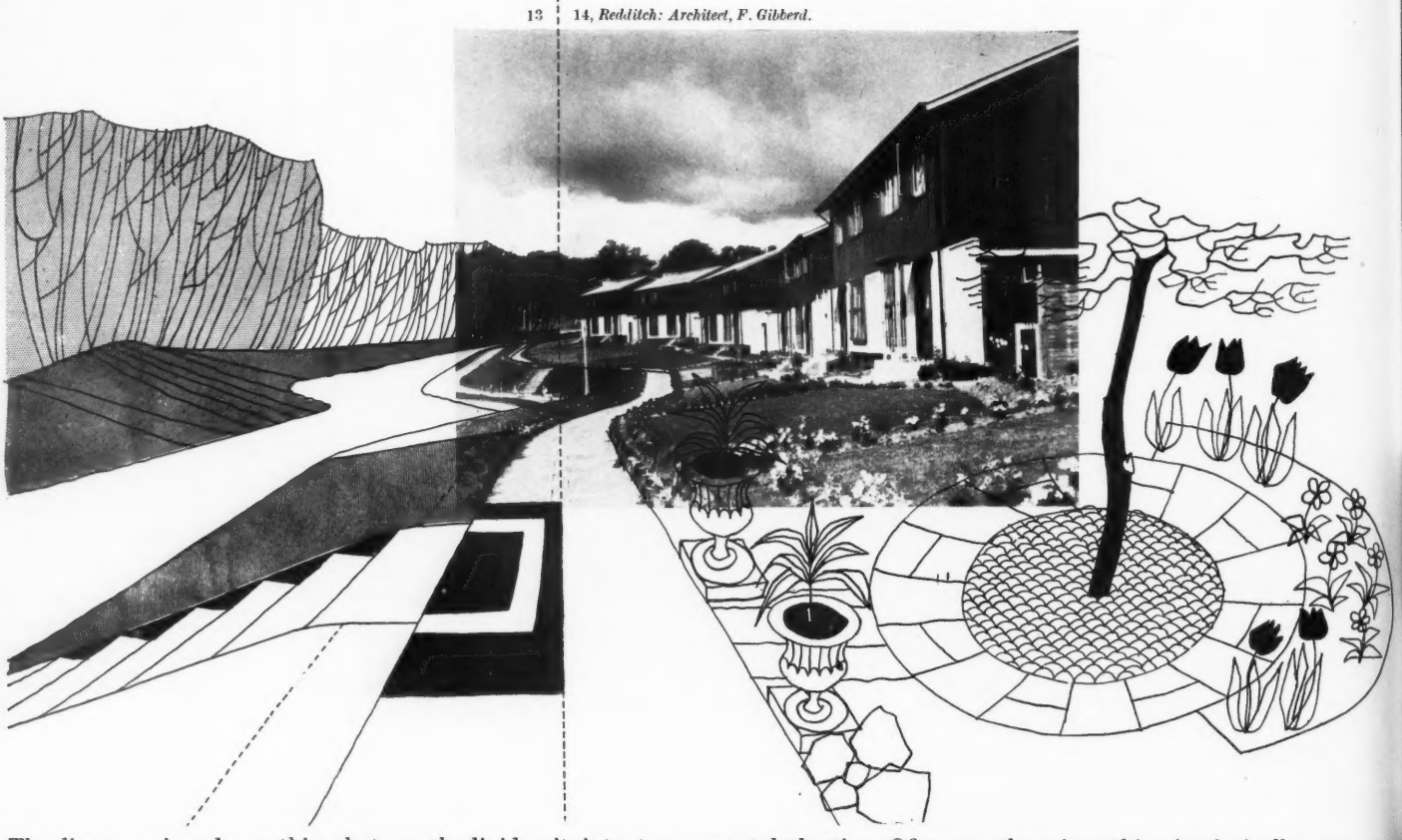
Below are three examples of foregrounds which achieve rurality. Top left, the casual workaday foreground of rural industry; bottom left, the charm of grouping and unpretentious simplicity of lawn; right, the effect of wildness exploited to the full.

10, *above, Aldeby, Norfolk: Architects, Tayler and Green*; 11, *below, Westbury, Wilts: Architect, G. Blair Imrie.*

12, *Wheatacre, Norfolk: Architects, Tayler and Green.*

LANDSCAPING the telescope and the microscope

13 | 14, *Redditch: Architect, F. Gibberd.*



The line running down this photograph divides it into two separate pictures which illustrate two approaches to landscaping. On the left the houses and immediate environment are regarded as being part of the total scene, part of the swing of the road, the trees and slopes.

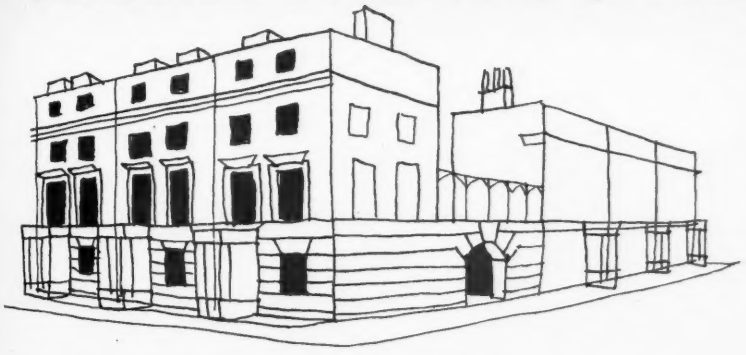
On the right these are ignored and attention is concentrated on the house and its immediate surroundings by means of ornamental planting. Of course there is nothing intrinsically wrong with the more fussy intimate landscape, where it is appropriate. The fault here lies in the use of a suburban or 'enclosed' effect in an open, flowing landscape. Both views have, of course, been exaggerated to show the point, classical urns are not in vogue today but remain a recognizable symbol.

URBANITY the shy return of the terrace house

15, *Llangefni, Anglesey: Architect, T. Alwyn Lloyd.*

A strange hybrid which, whilst accepting the principle of the terrace, coats the pill with semi-detached sugar.

TERRACE JUNCTIONS problems of the corner



When all housing was terraced they knew how to turn the corner, now there appears to be some confusion, mostly caused by claims of back gardens. Solutions vary from very odd lots to a space for old people's homes.

19, *Somerford Estate, Hackney: Architect, F. Gibberd.*

16, *Sunbury-on-Thames: Arch. Basil Spence.*

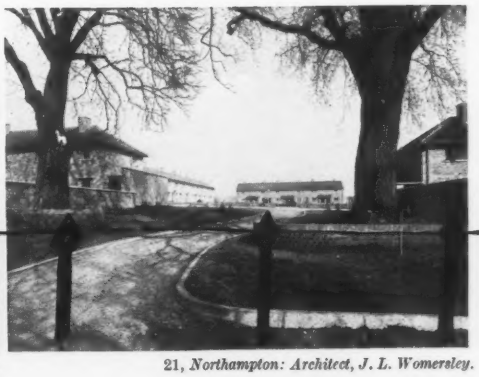
17, *Chichester: Arch. S. H. J. Roth.*

18, *N. Westmorland: Arch. K. Knewstubb.*

On the left, one straightforward solution neatly carried out.

FORTIFICATIONS as opposed to enclosures

20, *Prestatyn: Architect, F. A. Roberts.*



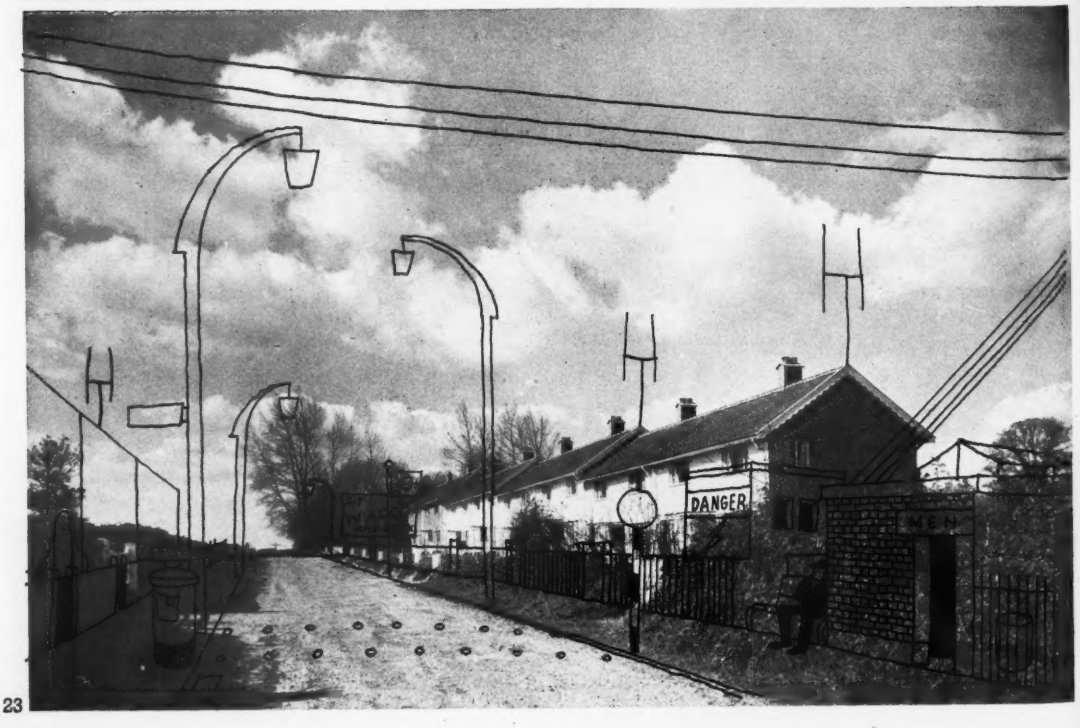
21, *Northampton: Architect, J. L. Womersley.*

No one objects to enclosure for the sake of privacy, but the mania which scatters concrete posts and chicken wire should be treated early. Evidence of a more advanced stage of the affliction is seen (right) where two strong trees have been bricked in to prevent children leaning against them.

IMPEDIMENTA the architect and his map

Most housing schemes born into the world have two parents—the architect and the machinery of welfare—which, by means of manual, by-law and inspector, injects a whole armature of drains, lamp-posts, turning-circles, roundabouts, seats, lavatories, bus-stops, wires, poles and litter baskets into the new-born babe. We start with the top photo, it is what everyone wants—informal, free, serviceable enough, and alive. The overlay in the next photo shows what usually happens. Whether the architect is after rurality or urbanity, the final effect comes to the same squalid thing. This is not to decry street lighting or public lavatories, but it is worth asking the question, 'Is the architect doing all he can to transmute all these diagrams of progress into a living landscape?'

22 *Wheatacre, Norfolk: Architects, Tayler and Green.*



23

at all, and it is impossible without detailed study of every house plan to be certain who has shirked it. Wherever identical terrace houses face each other across a road or green one becomes suspicious: do they all have through-living-rooms? And even given the benefit of this doubt, very few contemporary schemes attempt to avoid the north-facing garden. Once again 'I' is outstanding in this respect. All its long terraces face the sun and hug the slopes in curves as

Estate at Newport designed by Johnson Hackett. The site plan (I) is on page 18.

elegantly sinuous as Lansdowne Crescent, their obvious inspiration. Density of course is low, and road costs must be extravagant, but these days one hails any extravagance for getting itself built at all. Still, one must return to Economy, because it would be unfair not to recognize it as a constituent fact. Those who have fought the good fight by narrower frontages, shallower gardens, shorter lengths of roads and services, full exploitation of every corner of the site and other unpopular expedients, deserve a sober cheer. So do those few who have thought about maintenance and realized that there are surfaces intermediate between turf and tarmac that cost less than the former to maintain and are more human than the latter. The economies we so sorely need, however, will be attained not in the sphere of layout but in the sphere of structure and space standards, which are another matter.

We are coming down to detail, down to earth, for it is with detail that this review is primarily concerned. I propose therefore to plunge into it, leaving till later certain major doubts and questions of principle that may already be troubling the reader. From Flatland we descend therefore to undulating bosky England and consider, for a start, Slopes. From the number of symmetrical squares and closes we have just seen in Flatland you would not think England sloped at all. But it nearly always does, and even though gently as in 2,* enough to make nonsense of a square which certainly looked fine on plan; shaggy grass and a mean concrete border did the rest. Straight terraces are equally impossible unless they run with the contours as surely it hardly needed 1 to demonstrate. Pushed askew like railway coaches after a crash, the architecture is made to look even more tipsy by the engineer's diminishing asphalte perspectives and question-mark lamp-posts. Compare a rival Welsh scheme, 4, with its good curves, sensible landscaping, pretty colourwash and flagstaffed bulwark of local stone. Or 3, contemporary Bath, plainer but equally commendable. Even a simple serial example like 5 climbs its slope with much less fuss than 6, whose romantic intentions have been compromised by some horrible street furniture.

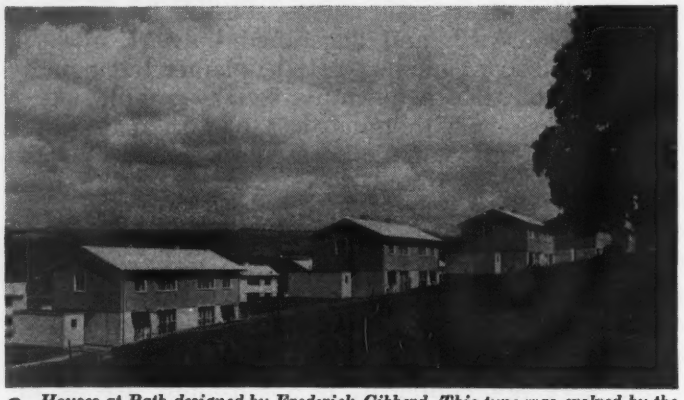
For the symmetrician, flatness is desirable, as in 5, though flatness is even better exploited in 6, whose long roof-line, nicely relieved by changes of colour, has all of the Fens in it, and a genuine rurality that is entirely absent from 8, in spite of its clusters of gables. What is rurality? Cottage-style architecture alone does not confer it, if foregrounds are as insensitive and brutal as in 7. Local material, even Yorkshire stone used in the dourest Yorkshire manner, does not guarantee it, nor does picturesque grouping. The answer, curiously enough, is not in the building at all, but in its setting. Rural housing should creep quite quietly into the countryside and appear beyond hedge or wall as naturally as a hayrick, 10, 11, 12. Thus embowered, the most sophisticated architecture acquires rurality. The enemies of rurality are the concrete kerb, the concrete lamp-post, the concrete path—or perhaps one should not blame the material itself, but the facile and thoughtless geometry of those who thus abuse it.

Landscaping—of which this is an aspect—is a word of plain but honourable antecedents that has lately sought to go up in the world. Too often, when the builder has finished and the 'landscape architect' is brought upon the scene, he feels it necessary to assert his professional status by ingenious wiggles and esoteric Latin names as in 14, when really one would be quite content with 13. We must be grateful for two advances that are now fairly general, the disappearance of frontal fortifications such as in 20 and the effort to incorporate important trees—though if people go to the length of placing them on brick pedestals as in 21 they will probably die just to show they are not statues.

Also to be set on the credit side (though most of the credit is due to the hard words of urbanists like Dr. Thomas Sharp) is the general assault on the semi-detached house. Like it or not, the terrace is back, sometimes as in 15 camouflaged to give an illusion of pairs. Except in the stolidest backwoods, where pairs survive efforts are made to link them by screen walls. This sense of the street involves doing something about corners. 16 and 17 shows a concave treatment; and a very effective one, but so it should be, for a whole house plot has been sacrificed to it. The fully built-up corner is much more difficult to manage. 18 is a gallant effort that probably looked well in Flatland, 17 a favourite solution that also does not come off visually but for more elusive reasons. Is it that the little lodge, no doubt with its twin across the way, has a suggestion of miniature formality associated with chateaux rather than with council houses? Or does its shrunken size alongside family houses expose too poignantly the shrunken circumstances of the old?

The use of local materials is another aspect of the same increase in average sensibility. We have already

* The photographs referred to by numbers are those appearing in the Exemplar on pages 19-24.



a Houses at Bath designed by Frederick Gibberd. This type was evolved by the British Iron and Steel Federation: examples here have cavity walls with ground floor rendered and first floor faced with vertically hung metal sheathing.

b Houses at Saddleworth, Lancs, designed by the Grenfell Baines Group, and constructed of local stone.

seen proof that local materials are no panacea. Who would not prefer a to b (above)? Moreover, there is an artificiality these days about the use of local materials that is going to be increasingly uneconomic to maintain. When people use 'local' in this context they really mean 'traditional.' If it happened that asbestos cement roofing and vibrated concrete blocks were produced locally, they would not be held to qualify. However, the swamping of regionalism is a contemporary tendency that we need not be proud of.

This examination of the *minutiae* of housing layout has taken place well inside the basic conventions which were briefly alluded to at the beginning of this article. It is not my purpose here to question these conventions or to examine the larger aspects of housing policy or urbanism on which we shall expect the great cities and the new towns to throw fresh light. All the same, within the range of action of the urban and rural district council there are many alternatives and possibilities which most of them have still to explore. Those words urban and rural, for instance, ought perhaps to start a train of thought. The *Housing Manual* religiously divides its plan types into urban and rural because it is trying to give effect to the teaching of the propagandists of the thirties. But it is very difficult to distinguish the two, even inside the pages of the *Manual*, let alone outside, because the distinction does not correspond to a popular want. From all that is said and done it would seem that what is wanted is suburbia, something that carefully avoids the best qualities of urbanity.

It should not be necessary to re-argue the case against Town/Country, the case for the two extremes. On paper and in the visual result it is unanswerable; yet in social-democratic Britain, land of hybrids, it is as suspect as any other form of extremism. To passive popular resistance is added the vast caution of contemporary engineers and officials. Any architect trying to build like 19, or alternatively like 22, will find on the one hand a spacious pattern of sewers, services, cables, standards, improvement lines, sight lines, verges and footpaths prising his buildings apart and enforcing a suburban density, or on the other hand the universal demand for concrete lamp-standards, kerbs, seats, refuse-bins, television aerials, overhead cables, front fences, turning-circles and uniform road widths descending upon the remote lane in which he hopes quietly to build. Either way, unless he is ready to fight for his convictions, the visible result will be the same. For there are too many regulations in this country, and too many people content to devote a lifetime to their faithful observance.

And yet, though this needs to be said, it should not be the final word. Architects have their own guilt, and all must have felt it in their day. It is their business to make a pattern out of human life, but how often do they produce a pattern out of their own heads and try to force life into it! It happens in the placing of a window or in the planning of a town. My tailpiece shows part of a garden city, symbol of cerebral planning, and the superimposed pattern of human tracks, quite different, quite uncatered-for, symbol of organic life. We may lament the rigidity of officials without being aware of our own rigidities, which are often equally compelling though not embodied in regulations. The fault of a great deal of the work here reviewed, the fault that really matters, is this stiffness, sign of a lack of sympathy between the designer and the public, from which our building has suffered for over a century. In this we may still learn from nations who produce fewer and smaller houses than we do but seem to enjoy them better.

Aerial view of part of Letchworth Garden City.

As part of a Colonial Development Corporation programme, a large mill and timber cutting organization are being set up in British Guiana to develop a timber exporting industry for the colony, and a subsidiary prefabrication plant, with the possible export of prefabricated wooden houses in view at a later stage, is being installed to meet the very considerable local low-cost housing needs. A prototype house suitable for mass production which has been designed by the Government Architect and Planning Officer for British Guiana* is illustrated here for the first time.

*** A survey of recent official architecture in the West Indies was published this year in the May issue.**

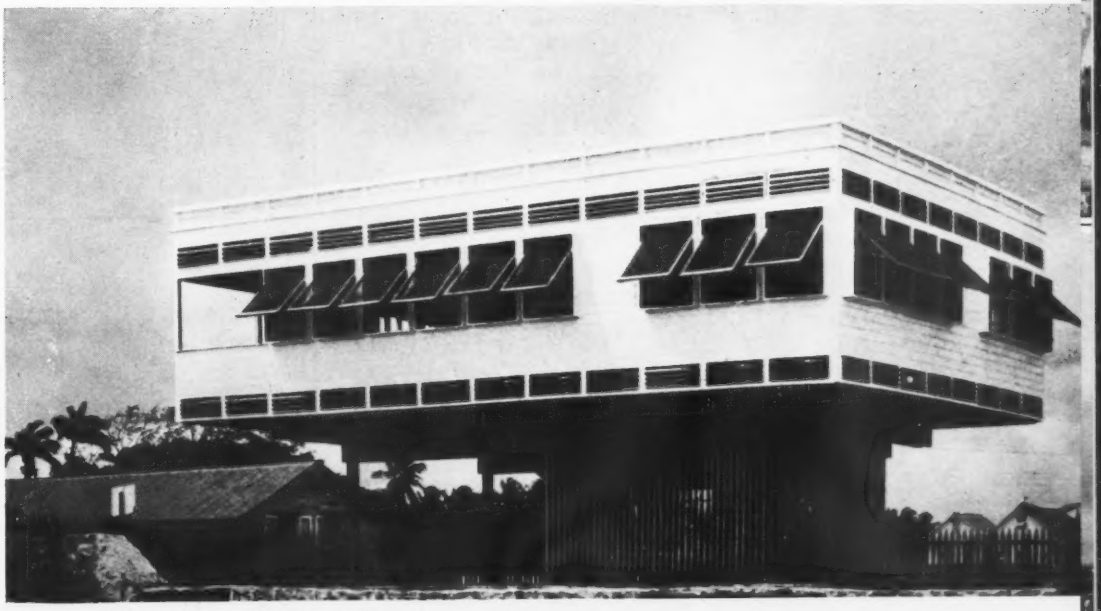
prefabricated
HOUSING IN BRITISH GUIANA

M. COSTELLO: ARCHITECT

The average British Guiana family requires a three-bedroom house. In order to provide the coolest and most comfortable living conditions in the warm humid climate it was decided to plan all accommodation except the utility room at first floor level ; this allows for extra ventilation at floor and ceiling levels in addition to that provided by the windows. The roof is in the form of a shallow tank for the storage of rain-water and for purposes of insulation.

The construction consists of a 12 by 12 foot frame grid of 5 by 5 inch uprights, with duplex joists and tie-beams providing ' clamped ' connections, all of green-

1



The completed house seen from the north-west.

interior of living room.

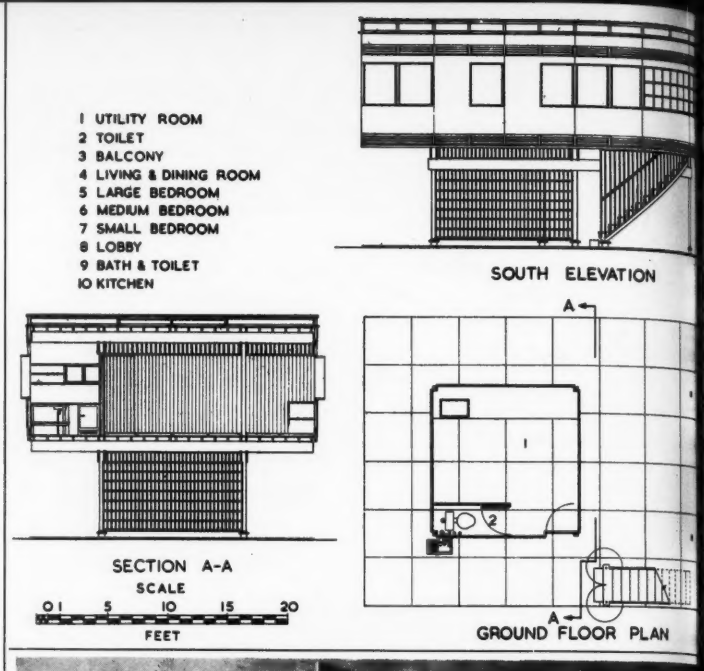
2

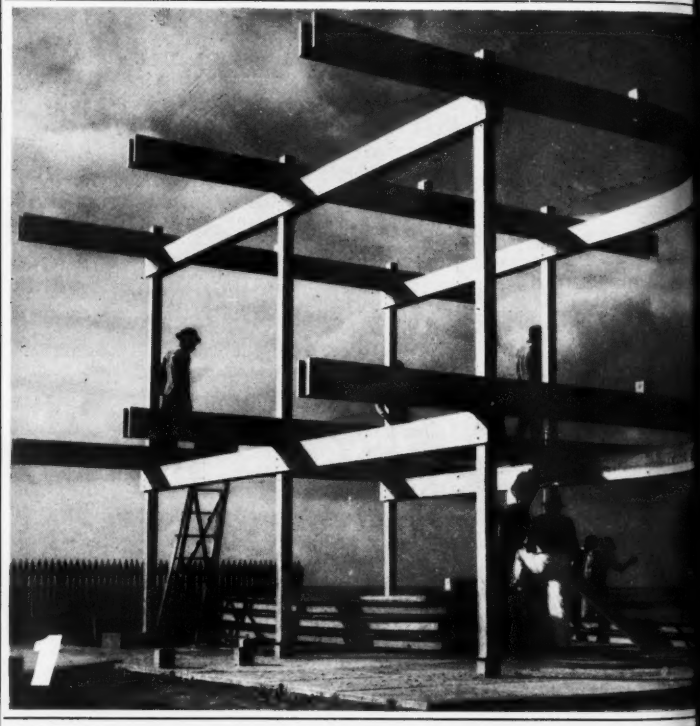
PREFABRICATED HOUSING IN BRITISH GUIANA

heart timber. The roofing units are 18 by 16 foot panels, all similar except for the panel over the staircase well; these are again of greenheart. Wall panels and partitions are of crabwood, an abundant local timber similar to mahogany. Louvres and small fittings are in silver balli, a light and durable wood much used in local boatbuilding. Assembly of the prefabricated units is by nut and bolt. External painting consists of priming and two coats: internal painting priming and one coat. All priming is done before erection. Erection time for frame and shell of the prototype was five days. The net weight of the completed house is 12½ tons. A test model, sited in a most exposed sea coast position, showed only some corrosion of the fastening bolts in ten months. The protective paint appeared intact. The estimated cost in full production is £625.

The same system of design is being used for one-room and two-room terrace blocks. The framing members and prefabricated units are identical except in the case of the intermediate panels for floors and roofs which are in 12 foot sections. Chief assistant architect was Hugh McG. Reid.

1 the framing erected. 2 first floor panel being raised. 3 placing of floor panels in position. 4 corner wall panels fixed. 5 wall panels in position. 6 completed house. Erection time for the prototype house was five days.





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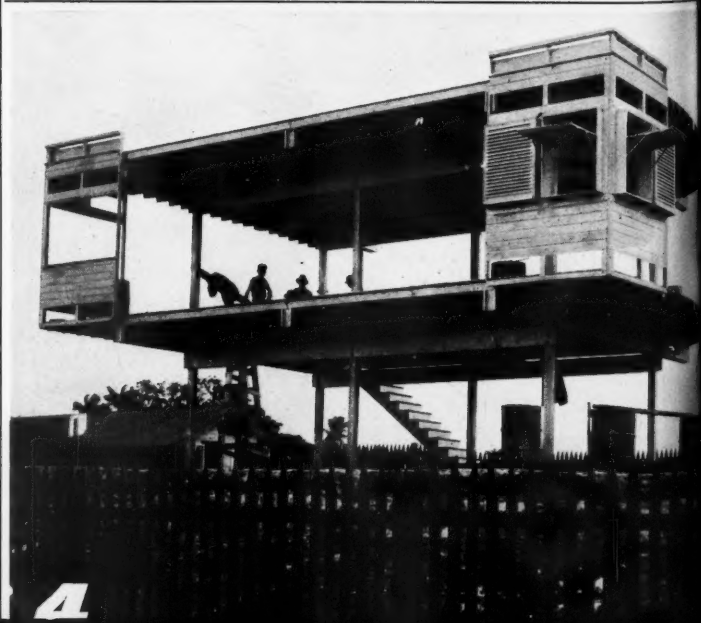

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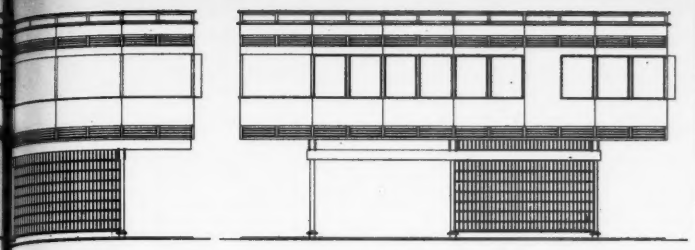
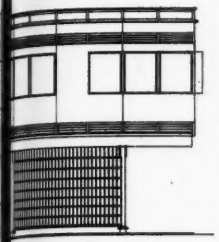


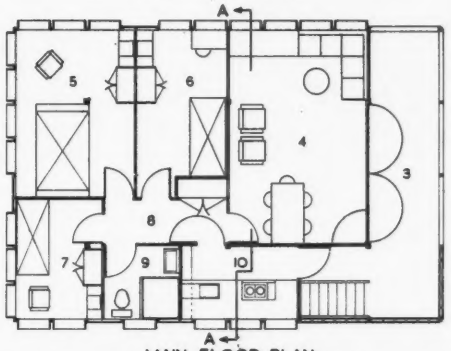
EAST ELEVATION

NORTH ELEVATION

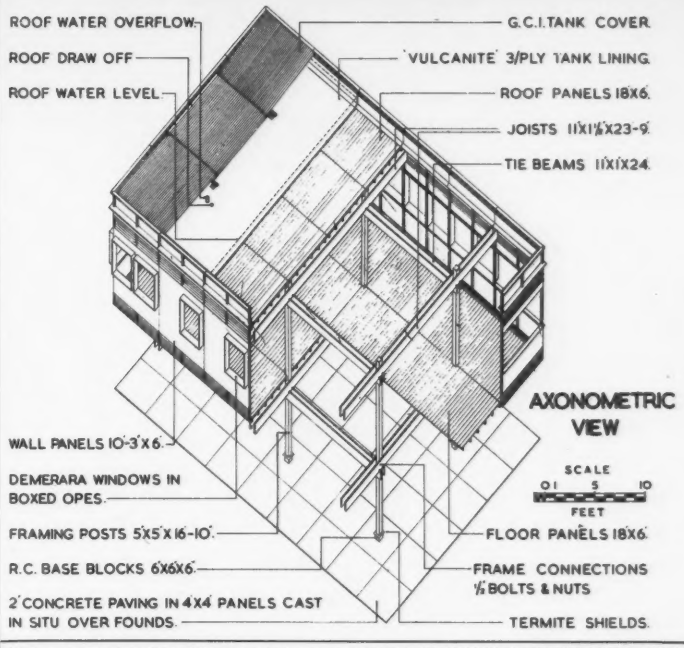


WEST ELEVATION

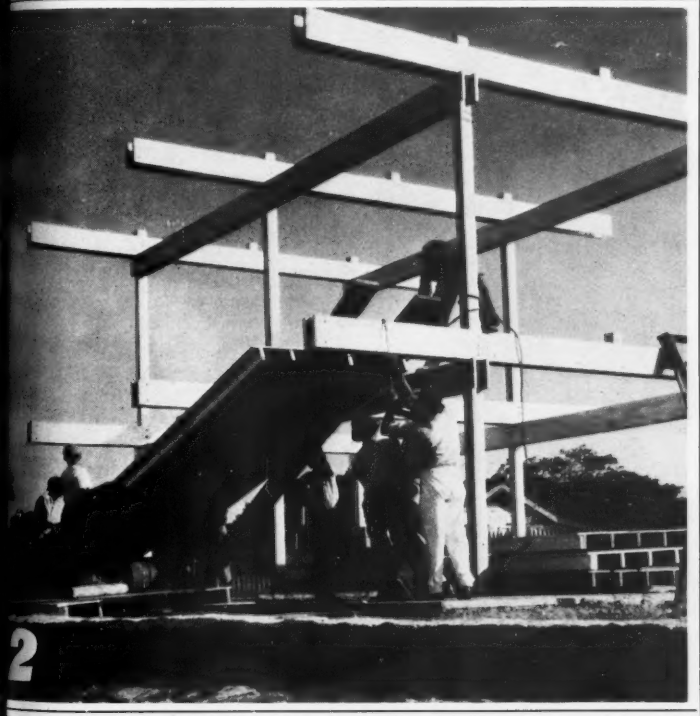
SCALE
0 5 10 15 20
FEET



MAIN FLOOR PLAN



AXONOMETRIC VIEW



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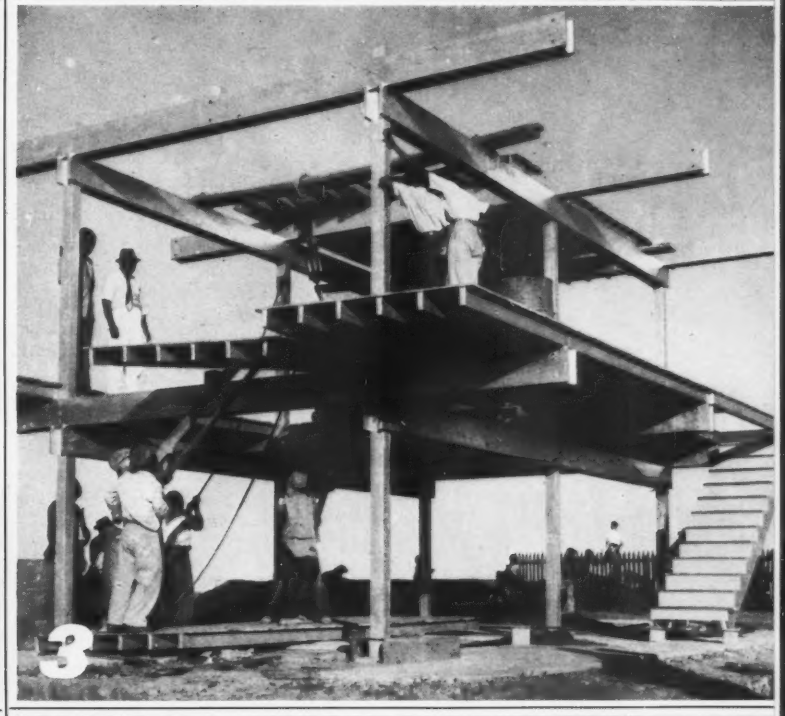


3

6

In 1935 *the Italian minister of education announced that Mussolini intended to celebrate victory in Abyssinia ('which He is able to anticipate with mathematical certainty') by covering a thousand acres near Rome with architectural monuments as an instalment of the new capital that he planned to build. This third Rome—the first was the city of the Caesars, the second the city of the Popes—was to take the form of a gridiron of monumental avenues stretching for fifteen miles to the Tyrrhenian coast. Here Bernard Rudofsky tells the story of the whole fantastic project in an article illustrated with the first series of photographs ever to have been published of the third Rome as it stands to-day. The air-view above shows that part of the city which was planned for the projected international exhibition of* 1942. *Buildings which were commenced or completed are numbered and are as follows:* 1, *Palace of Italian Civilization;* 2, *Restaurant;* 3, 5, 6, *Administration buildings;* 4, *Fascist Federations building;* 7, *House of Festivals;* 8, *Museum of Ethnography;* 9, *Museum of Science;* 10, *Museum of Modern Art;* 11, *Museum of Ancient Art;* 12, *Obelisk from Abyssinia;* 13, *Museum of Roman Civilization;* 14, *Navy Museum;* 15, *Army Museum;* 16, *Air Force Museum;* 17, *Institute of Forestry.*

illustrated with the first series of photographs ever to have been

Museum; 16, *Air Force Museum;* 17, *Institute of Forestry.*

Bernard Rudofsky

THE THIRD ROME

About half an hour's walk south of San Paulo fuori le Mura, the Via Ostiensis, which runs more or less parallel to the Appian Way, divides. To the right it continues to Ostia and the sea; to the left it leads, under the name of Via Laurentina, to the Abbey Delle Tre Fontane, the place where the apostle Paul was beheaded. According to legend, his severed head made three leaps, whereupon three fountains sprang up. The fountains gave the place its name; nowadays visitors are offered there a glass of eucalyptus liqueur from the monks' distillery.

Visiting pilgrims are exceedingly rare, although guide-books promise delightful views from the hills above the abbey. The surrounding country is indeed the prototype of all the pine-studded landscape paintings of the Romantic School. It is rugged, carved out by ravines and abandoned puzzolana pits which for centuries furnished the incomparable cement for Rome's buildings. Malaria—now extinct—kept settlers away and sometimes forced the monks to abandon the abbey; it accounts for the splendid solitude.

The land between Via Ostiensis and Via Laurentina is higher than the rest; it forms a plateau and, towards the Tiber, terminates in a cliff-like formation. Once it would have been fascinating to watch from this bank the ceaseless flow of river traffic which carried the goods from the ports of the Roman Empire, from India and China to the capital. Today, not the smallest boat can be seen; an express highway and an electric railroad run along the river to Rome's lido, Ostia Mare, a rather unattractive agglomeration of suburban villas and bathing establishments.

Tourists on their way to the sea beaches are invariably disappointed by the uninteresting flat countryside. None of them suspects that the low cliffs at their left hide some of Italy's most spectacular sights. The plateau harbours a well-kept secret: the unfinished monument to the glory of Mussolini—the third Rome, world capital of fascism.

Architecture is not necessarily less perishable than poetry or codified laws, yet the man who indulges in lordly building projects is out to buy his share in immortality. Rulers are often remembered by their architectural legacy only, and Italy has many examples in point. After 2263 years, the Via Appia still bears the name of its builder Appius Claudius. The Aurelian Wall and the Claudian Aqueduct, though mere feats of engineering, are still identified with the names of the emperors under which they were built.

Mussolini's early efforts to perpetuate his memory were unimpressive though difficult to overlook. Rome's physiognomy had changed considerably during a dozen years of fascist rule. Mussolini had the barnacles of time scraped off the Marcellus Theatre and the Augusteum, leaving both ruins well scrubbed and less interesting. New throughways did irreparable damage to the baroque quarters of the town. One major operation left an ugly scar on Rome's face: the cutting of the Via dell'Impero, the military parade ground which was to be flanked by enormous new party headquarters.

Anybody who has stood on the famous balcony of Palazzo Venezia can testify to its inadequacy of elbow room. The palace itself was never much of a showpiece; it is mediæval in character; its undistinguished neighbours are, across the piazza, its own foolish copy which houses an insurance company, and the wedding-cake structure of the monument to Vittorio Emanuele II. Moreover, the Palazzo Venezia had been owned for 120 years by Austria, Italy's traditional enemy and, until the first world war, it was the residence of the Austrian ambassadors.

To escape the narrow confines, historical and otherwise—Italy was still a kingdom—Mussolini held two national competitions for a building that would better suit his growing stature—the Palazzo dell' Impero. The Etiopian war interfered with this project, but it inspired more grandiose architectural schemes instead.

At the beginning of 1936, the war was in a most critical stage, and the sanctions of 52 countries weighed on Italy. Yet almost one year earlier, in June, 1935, the minister of education, Bottai, announced to the Italian nation Mussolini's intention of celebrating his African victory—'which He is able to anticipate with mathematical certainty'—by covering one thousand acres with architectural monuments as an initial outlay for his new capital. The Duce's space concept of the third Rome—the other two were the capitals of the Caesars and of the Popes, respectively—was of utter simplicity and had just the right touch of megalomania: 'From Rome to the Sea, and from the Sea to Rome.' That distance is about fifteen miles. The date chosen as the most appropriate for the unveiling of the third Rome was 1942, the twentieth anniversary of the fascist regime.

Mussolini had already to his credit the founding and quick realization of half a dozen towns built from scratch, such as Littoria, Sabaudia and Pontinia in the reclaimed Pontinian marches. They were as pretty as architectural models and about as lifeless. The Italian dictator was immensely proud of them, and the indifference with which foreigners treated his brain children wounded his vanity. Tourists never seemed to have heard of the new towns; the objects of their interest were, as ever, catalogued art and the mummified sort of architecture. This time, however, a stroke

of genius dispelled all the dictator's doubts about his ability to attract attention—a world's fair, staged within the borders of the third Rome, was to act as flypaper for the new fascist capital. Mussolini's truly inspired idea was to let his enemies foot the bill for his victory celebration and party anniversary.

Victory in Abyssinia came in May, 1936, and less than one year later, work was started on the site of the third Rome.

The *Enciclopedia Italiana* defines the plan of the third Rome as a 'singularly shaped, almost linear development in the form of a comet.' 'It will start,' the encyclopædia continues, 'in the southern part of Rome and extend to the Tyrrhenian Sea. Parallel to it will run an archæological zone of unmatched beauty; its cone-shaped area, following the direction of Via Appia, will extend to the Forum Romanum and the Capitol.' (A simplified rendering of this scheme is preserved in one of the sidewalk mosaics in front of the Fascist Federations Building.) Excavations in Ostia Antica were speeded up for the fascist anniversary; the excavated part of Ostia was doubled and brought up to 165 acres.

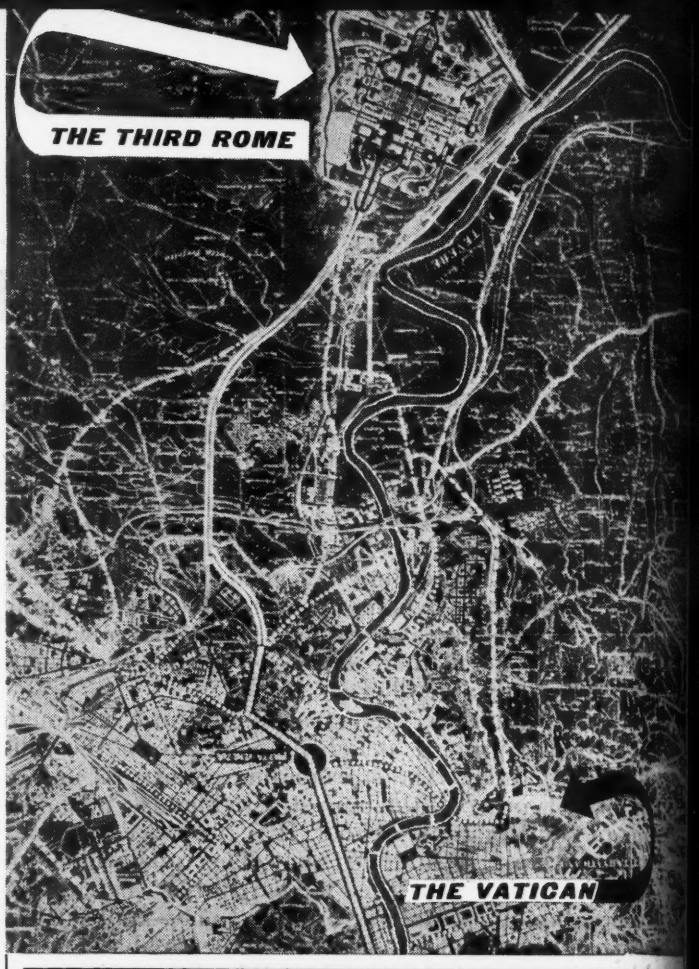
The official building programme was cast in more eloquent words. Alas, the pleonastic Italian loses all its buoyancy when rendered in English: 'The Duce's plan for Rome's development towards the sea and the Tyrrhenian coast is grafted on the idea and the history of the first beginnings with grandeur unrivalled through the centuries; it marks the city's triumphal return to its highest traditions. The new metropolis with its wide avenues, its uncrammed buildings, its suburban quarters abounding with green spaces and the coolness of fountains and pools, will extend with enormous width towards the free sun and the vast breath of the sea.'

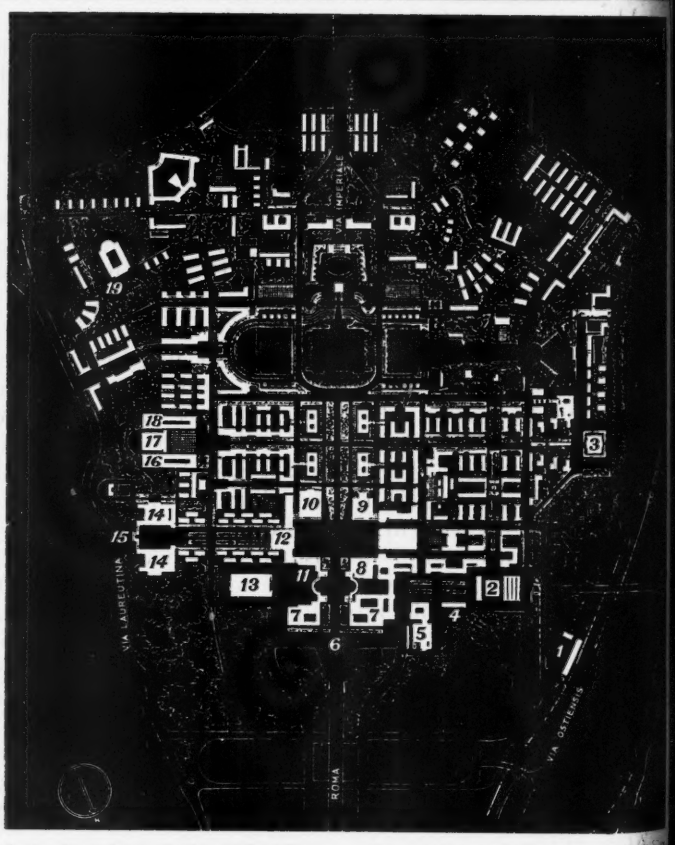
A glance at the gridiron plan is sobering; rhetorics were not matched by urbanistics. The head planner was Piacentini, an architect whose style apparently suited the dictator's grandiloquent taste. 'There only remained,' comments Piacentini on the choice of the site, 'the zone to the south towards the archæological parks and the sea, *miraculously spared by the building activities of the past*, thus leaving us the difficult but fascinating task of giving the new visage to Mussolinian Rome.' The English is that of the official Italian publication; the italics are the writer's.

Piacentini continues: 'This programme of destining permanent buildings to the noble manifestations of culture and civilization has provoked and imposed, in the study of the plan for the whole quarter, a rhythm and a monumental form worthy of those pages of town planning which have come to us from all ages.' What he probably meant to say was that the plans of the city and of every one of its buildings were of inexorable symmetry.

However, the new Rome was to be regaled with a respiratory system far superior to the one which the old city discarded at the end of the nineteenth century. It was to have immense gardens and parks, albeit of funereal character. Few sights produce such melancholy in the spectator as the archæological promenades of Mussolini's manufacture.

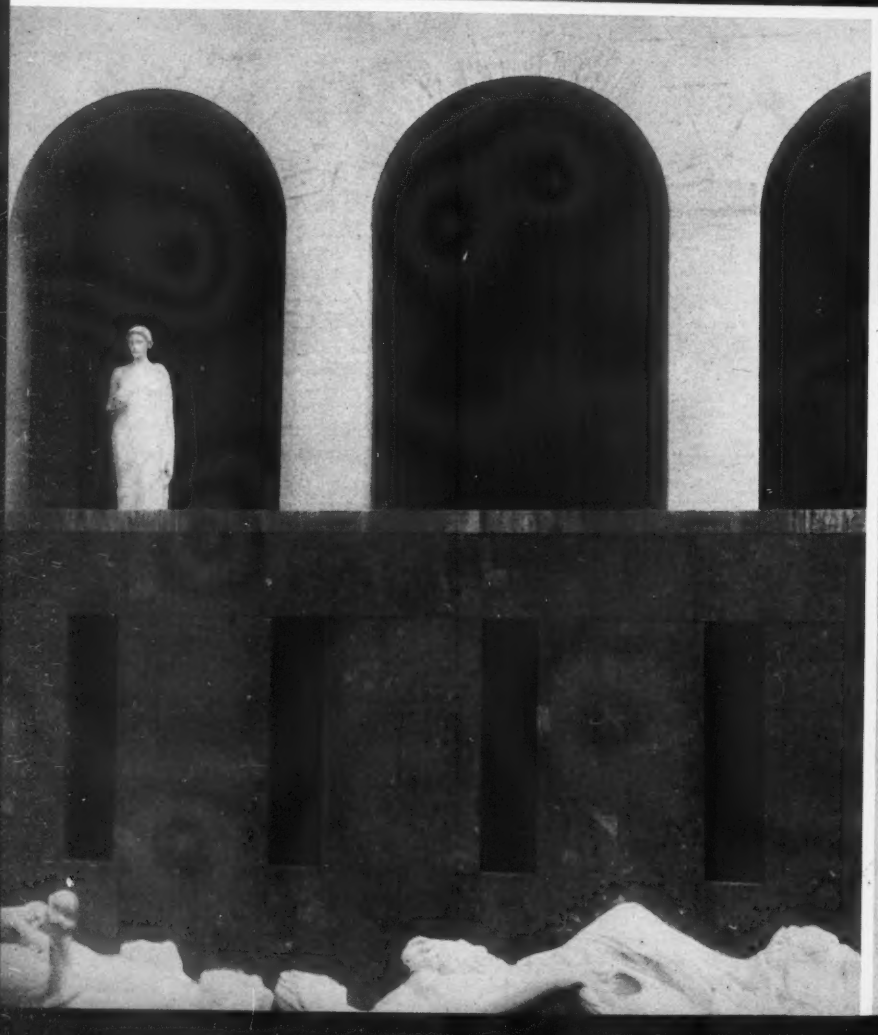
The plan does not give a hint on how the necessities





key 1, underground station. 2, palace of Italian civilization. 3, cathedral. 4, restaurant. 5, palace of Fascist federations. 6, exedra (shifted northwards). 7, offices. 8, museum of ancient art. 9, museum of modern art. 10, museum of sciences. 11, museum of ethnography. 12, administration building. 13, palace of festivals. 14, palace of Roman civilization. 15, colonnade. 16, navy museum. 17, army museum. 18, air force museum. 19, institute of forestry.

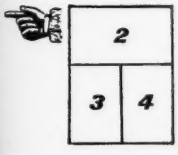
Top, plan of the road system leading to the Third Rome. Above, plan showing the layout of that part of the city which was intended as the international exhibition of 1942. 1, on the facing page, the Palace of Italian Civilization nicknamed il colosseo quadrato, *the square Coliseum, the only one of the structures that is visible from Rome; there is an underground station nearby but it was never put into use.*



5

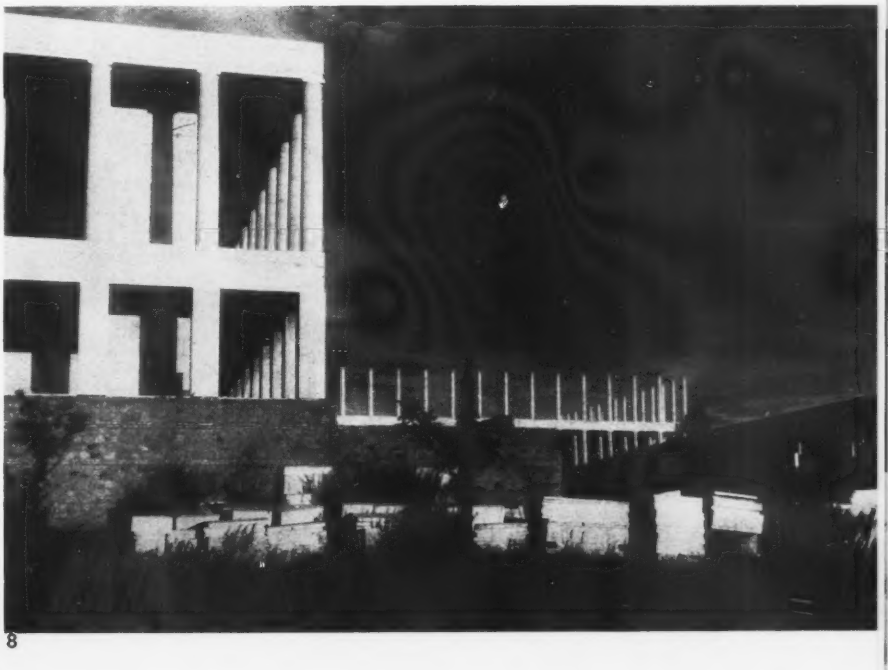
6

5, a pillared chasm, part of the Museum of Roman Civilization. **6**, *the inscription above the Fascist Federations Building which reads 'The Third Rome will spread over the other hills along the sacred river (Tiber) to the beaches of the sea.'* **7**, *an unfinished colonnade which joins the two wings of the Museum of Roman Civilization.* **8**, *weeds and unused slabs of travertine fill what would have been one of the main piazzas bordered by the Navy, Army and Airforce Museums.*



2, *from the western portico of the Palace of Festivals. In the background is the Palace of Italian Civilization: on the right are administration buildings. The portico is supported on fourteen polished granite columns forty feet high.* **3**, *marble statuary, still spotlessly white after more than ten years in the open air, lies scattered about the site. In the background of* **4** *is the Navy Museum.*

7



8

9

9, the main staircase, partly caved in, and the pillared front to the Institute of Forestry. The figure standing by the columns gives an idea of the scale. **10** *and* **11** *are details of the same building. The methods of construction are those of ancient Rome, which Mussolini fervently hoped his own city would rival.*

10

11

of life were going to be provided for the third Romans. Rome produces little else besides the paperwork of its bureaucracy. In 1936, the precarious economical situation of the country was being severely tested. Autarchy, a kind of horse-physic of Mussolini's prescription, was expected to cure Italy's internal troubles within five years. The autarchic experiment is mentioned here because it produced curious results in the field of architecture. Since all of Italy's metal went into armaments, the Duce's system of economical self-sufficiency forced the builders of the third Rome to fall back on archaic methods of construction—more precisely, to revive the Roman techniques of two thousand years ago.

The initial budget allotted to a nucleus of about one hundred buildings—some surpass in size those of old Rome—was a measly 500 million lire, or 5½ million pounds. Work was started on a few dozen constructions only. Among those which almost reached completion are various office buildings and monumental works such as the Palace of Italian Civilization, the Palace of Roman Civilization, three museums of the Italian armed forces, several museums of the arts and sciences, and an assorted number of memorials. The crowning ornament, a triumphal arch with a span of 656 feet, remained on paper.

Italy's architects and artists competed with each other in the great creative effort; charity demands that their names be forgotten. Four separate national competitions were held for the Palace of Congresses and Receptions; the Civilization Tower; the Imperial Square with its four museums; and the military museums. In July, 1937, the plastic model (1) of the new capital was shown to Mussolini. 'Though a mere miniature, the project appeared grandiose to the Duce and pleased him in every detail,' records the chronicler with biblical simplicity.

The real ingenuity of the project lies in its clever combination of a government-financed skeletal city and the generous padding of modern architecture provided and paid for by foreign countries. It is true that at the inception of this preposterous scheme no Italian—except Mussolini himself—believed that the nations which had opposed the African war, that 'filthy amalgam of states without idealistic principles, without spiritual concepts, united only by base material interest' would humble themselves by not only paying homage to the victor, but by actually defraying the costs of the festival.

Mussolini derived a good deal of his strength from an abysmal contempt of democracy. In 1923 he said: 'Fascism . . . has already stepped, and, if need be, will quietly turn around and step once more, over the more or less putrid body of Godess Liberty.' During the following twenty odd years, he lived up to his words. Mussolini's brutality and scatological humour apparently did not lessen his fascination. Archibald Henderson compared Mussolini to Andrew Jackson and Abraham Lincoln; in his *Immortal Contemporaries*, written in 1930, he summed up the dictator's personality as 'a man of conviction and a statesman with a matured political philosophy moulded by intense study and active participation in affairs.'

His compatriot, Washburn Child, then ambassador to Rome, beseeched Mussolini to write his autobiography, and when he was haughtily brushed aside with word that the dictator had more pressing things to do than scribbling, the inopportune admirer prevailed upon Mussolini to dictate his memoirs to him. The following quotation is from the foreword, written by the American ambassador: 'It may be shrewdly forecast that no man will exhibit dimensions of permanent greatness equal to those of Mussolini.' It is an ironical comment on the ways of democracy that when the United States entered the war in 1941, its soldiers had to undergo indoctrination courses accompanied by moving pictures in which fascism was depicted as repulsive. Some soldiers must have been able to remember that only a few weeks before Mussolini's armies invaded France, a senate committee in Washington had appropriated $2,000,000 for United States participation in the fascist anniversary exhibition.

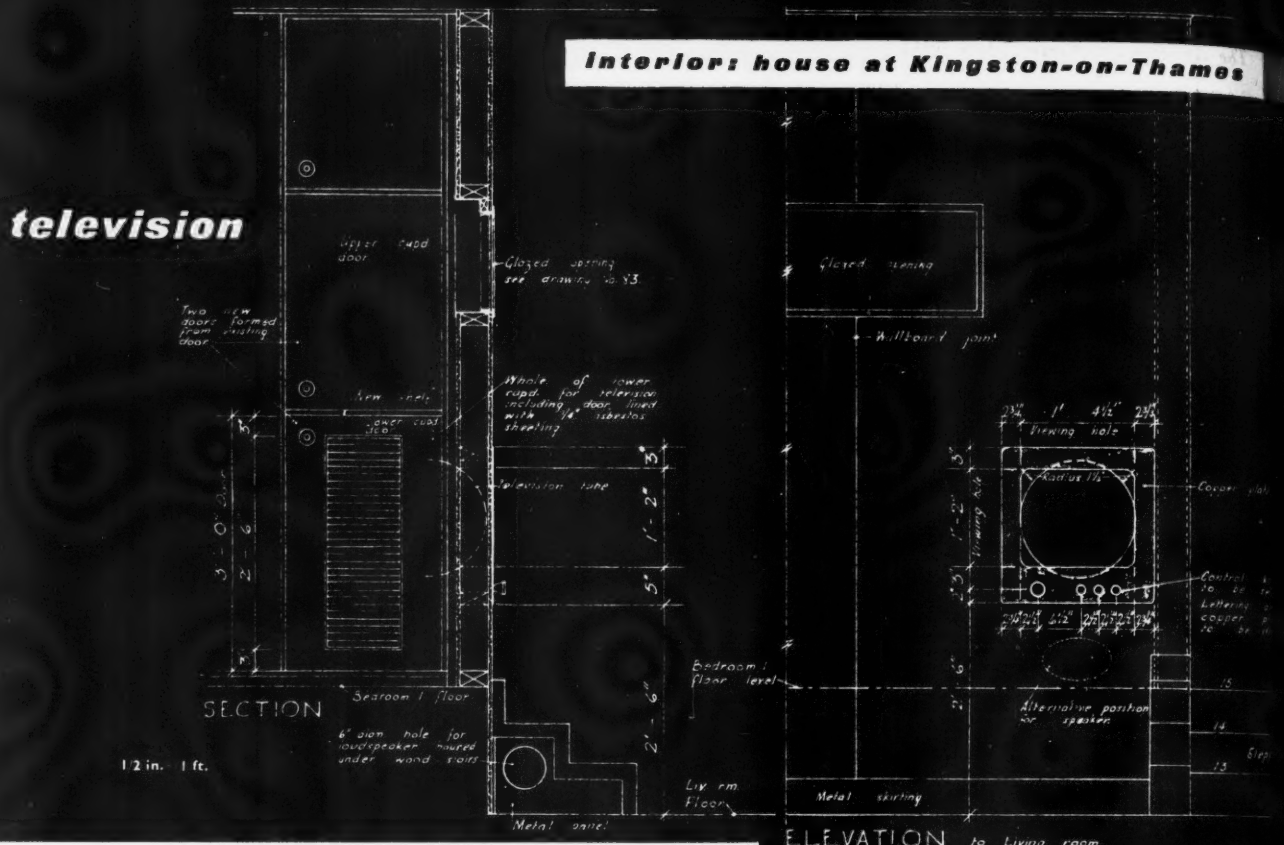
The third Rome is inaccessible; barbed wire and armed guards keep the curious at bay. Trees and shrubs grow in the premature ruins. Large flocks of sheep have taken possession of the grasslands; snakes curl up on the sun-baked stones. The photographs shown on the previous pages are the first that have so far been taken. The old cliché that they do not do justice to reality has never been more appropriate than here. They do not render the undefinable atmosphere of the place. This dead city is unlike any other; it has no relationship to the outside world. In every direction the eye sees only uninhabited campagna. The thought that populous, turbulent Rome is only a few miles distant, melts away before it can be grasped. Ghost towns in the desert sometimes produce in the intruder a similar feeling of uneasiness, a sort of dizzy spell coupled with a momentary loss of time and space. But ghost towns and ancient ruins were once lived in. These gleaming ruins are architectural fœtuses; sensitive persons may be able to perceive their faint emanations of an ideological miasma.

The Italian government keeps silence about its plans for the third Rome; it probably has no plans. It lacks money to complete the buildings, or even to maintain the roads. Some of the imperial avenues have become impassable for even a light vehicle.

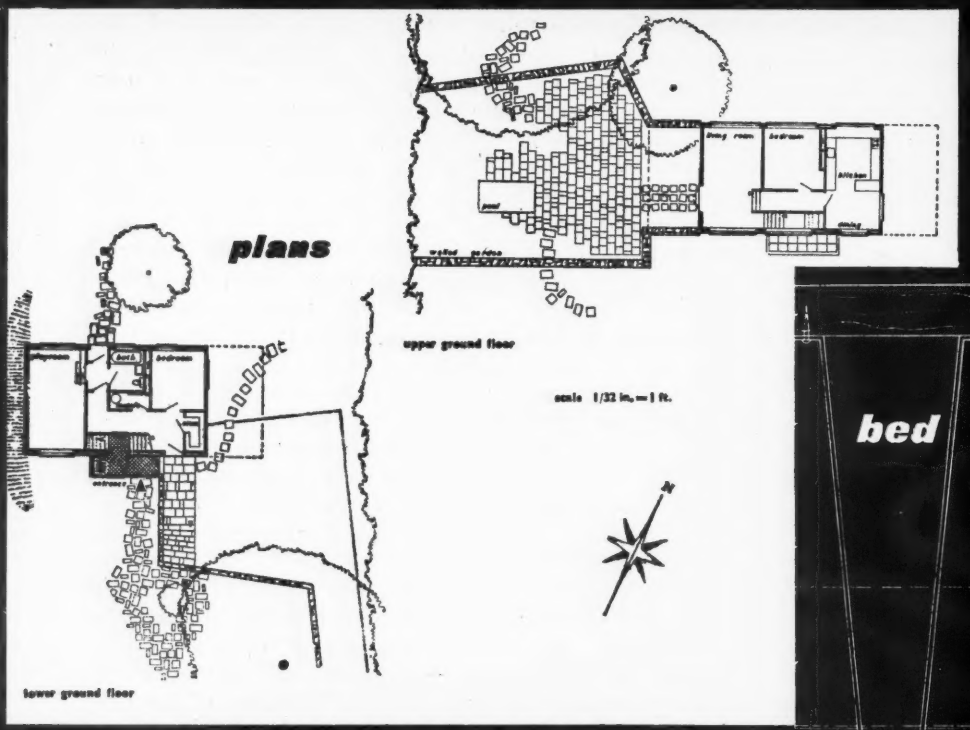
A touch of comedy is furnished by the emergence of the former owners of the 1,000 acres. Mussolini, in his summary ways, acquired their holdings through expropriation; today's government is in the embarrassing position of being sued for restitution. Unfortunately, the former owners' claims have become obscured by the accumulation of dozens of marble palaces on the former pastures. A legal nightmare persists, and the pious hopes that the Vatican or Hollywood would provide a happy denouement are growing dimmer by the day. Unborn third Rome is clearly on its way of becoming a ward of philanthropy. The United States government, if only to commemorate the shrewdest of its ambassadors, could probably pick up the mess for a comparative trifle and turn it into a national park of international thought. Open-minded excursionists will find greater edification in the peripatetic perusal of the Duce's ruins than in poking around in the nose of the Statue of Liberty.

interior: house at Kingston-on-Thames

television

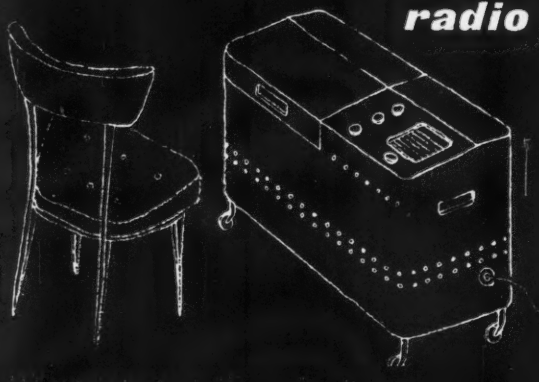


plans



bed

radio



HOUSE AT KINGSTON ON THAMES*

* *The exterior of the house was previously published in April 1950.*

TAYLER AND GREEN: ARCHITECTS

1 entrance

1 2

The entrance lobby, 2, is on a half landing of the stairs owing to the slope of the ground. A single sheet of fixed glass faces south ; it is partly screened by Japanese honeysuckle and large flowered blue clematis, which climb up metal posts outside, 1 ; inside, the posts are echoed by those for hats and coats. Walls and paintwork are white, the floor brown quarry tiles. The hat rack is of silver chrome and curtains are yellow. The stairs in this house have a greater importance than is usual, the living rooms being upstairs, the garden being accessible from both up and downstairs and the point of arrival being midway on the stairs. On arrival the visitor can see the living room at a slightly higher level and an internal window gives a view into the lower hall. The upstairs landing with its balustrade is a part of the living room and faces south. Walls and paintwork are white. The steps have red quarry risers and mahogany treads. The landing carpet is grey, while the balustrade is of mahogany and white stoved metal. The newel is polished copper.

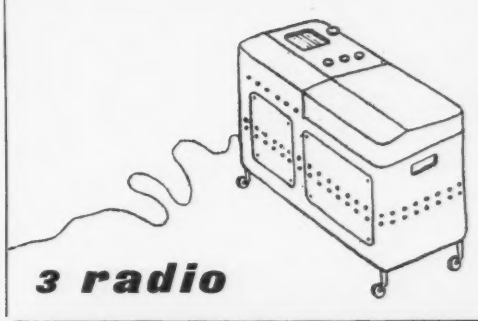
3

2 living room

The present room, 4, is only one-third of its intended size. It will finally include the area of the adjoining bedroom now enclosed by temporary partitions, as well as a further section still to be built. The whole room will be open as it is now to the stairs, 3, and will be on two levels separated by three steps to be extended right across the room.

An internal window in the temporary partition between living room and bedroom while adding interest and space, is placed high to ensure privacy in the bedroom. A dining space is provided in the living room and in the kitchen. The outside windows have large areas of fixed glass in wood frames and opening portions are metal casements in standard sizes. Casement doors are specially detailed in wood and external sunblinds are fitted into the heads of the south and west windows. There is no open fireplace in the house at present, although one will be built in the future extension to the living room. Heating throughout is by electric tubular heaters with separate thermostatic control for each room. Walls and paintwork are white. The floor is of Columbian pine ply laid in squares. Curtains are grey and yellow, chair fabrics brown, white and red. Fittings and furniture designed by the architects include shelving, dining table, window seat, radiogram, television and standard lamp. Some chairs are by Ernest Race, others were imported from Denmark. Movable shelves of mahogany span between fixed upright supports of sheet metal which are drilled with small holes to take metal pegs,

4



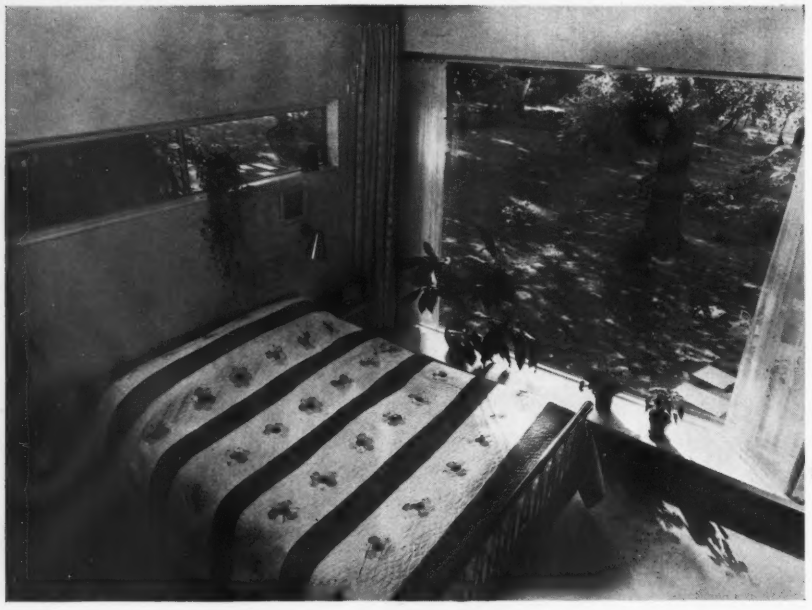
3 radio

5

6

7

The table top, 4, is mahogany veneer inlaid with a pattern of ivy leaves in sycamore and ebony ; the legs are of brightly polished cast brass with incised vertical lines. For the radiogram, 7, an existing set was used and a new cabinet designed of smaller dimensions. The new cabinet is mounted on sprung castors and with its lower height can now be operated from a chair in any part of the room. The loudspeaker was removed and fixed in the ceiling. Materials used are grey hide to front, sides and back, mahogany veneer to gramophone lid and polished copper surround to radio controls. The holes for ventilation are lined with chromium collars. For the television, 5 and 6, cupboards in the adjoining bedroom were used to house the bulky works and a polished copper surround flat on the wall is all that is seen in the living room. Its position, partly dictated by the planning of the bedroom, is well placed in the centre of the living room where it can be viewed by a wide circle of chairs when in use without becoming too important a focus when not in use. A brass grille in the bedroom cupboard door ventilates the set and the speaker is hidden below the three steps in the living room.



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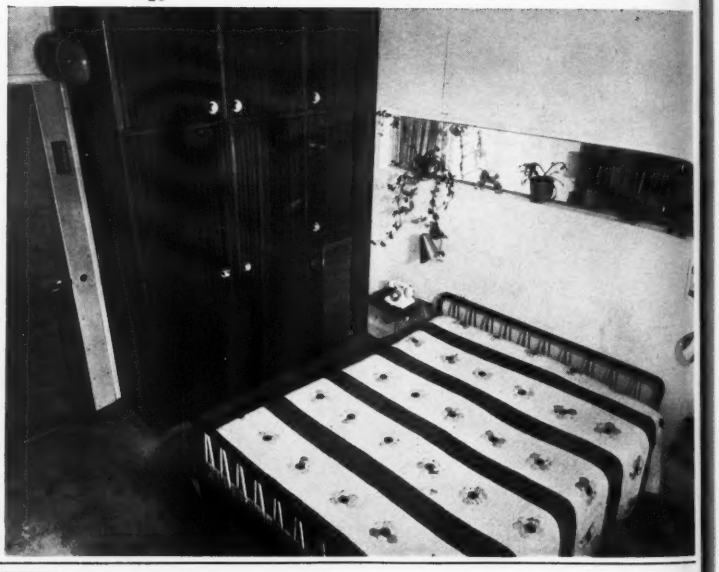
10



4 bedroom

When the house is extended the present principal bedroom will become a dining room open to the living room (which is three steps down from it) and also to the adjoining stairs. The large window to the garden, 8, intended for the future dining room, has proved so attractive that the owner has asked for the same feature when his future bedroom is built. The living room being at a lower level and the garden one storey down, there is little loss of privacy from the two windows. Cupboards, 10, are made from several Utility wardrobes in mahogany. The bed, 9, is specially designed, with ends in mahogany and brass, and a mattress of rubber on a sprung base. Walls and paintwork are white, the fitted carpet grey. Curtains are of blue and yellow printed fabric, the bedcover quilted white and red. Lights are of brass.

11

5 bedroom

The second bedroom has two single beds designed for use as seats in the daytime, 11, with sprung back cushions and rubber mattresses on sprung bases. Wash basin and dressing table are combined and back on the central plumbing duct. Cupboards are again made from mahogany Utility wardrobes. Walls and paintwork are white, the carpet pale grey. Bed covers are brown and cushions yellow. There is a dado of grey grass paper and the dressing table is travertine. 12 shows the entrance.

12

Richard Leacroft

The second Theatre Royal, Drury Lane, which took the place of a predecessor destroyed by fire, was designed by Sir Christopher Wren and opened in 1674. *Between then and* 1791, *when it made way for Henry Holland's theatre, Wren's building underwent various alterations, the most important being those carried out by the brothers Adam in* 1775, *with a further redecoration by Greenwood and Capon in* 1783. *To the student of theatre architecture its history is of the greatest importance; for here it is possible to trace, in one building, the way in which a Restoration playhouse evolved into a Georgian theatre, while contemporary discussions of the relative merits of the fore-stage and picture-frame proscenium show the necessity for a closer inspection of these features in their early forms.*

WREN'S DRURY LANE

In February, 1915, THE ARCHITECTURAL REVIEW published an article by Mr. Walter Godfrey on the fore-stage of the Theatre Royal, Drury Lane, as exemplified by the Adam alterations, and among the illustrations reproduced were three which provide useful evidence for an attempt at reconstructing the original theatre. These were: the interior perspective of the theatre as altered by the Adam Brothers, 5, a scale plan of the ceiling, and a section through the auditorium showing the proscenium opening. For the purpose of the present reconstruction further information was required, and this was provided by a sectional drawing prepared by Sir Christopher Wren which is commonly ascribed to this theatre.* It will be immediately apparent that some connecting link is required to relate these drawings one to another, and for this we must turn to such known facts as are available relating to the structure of these early theatres.

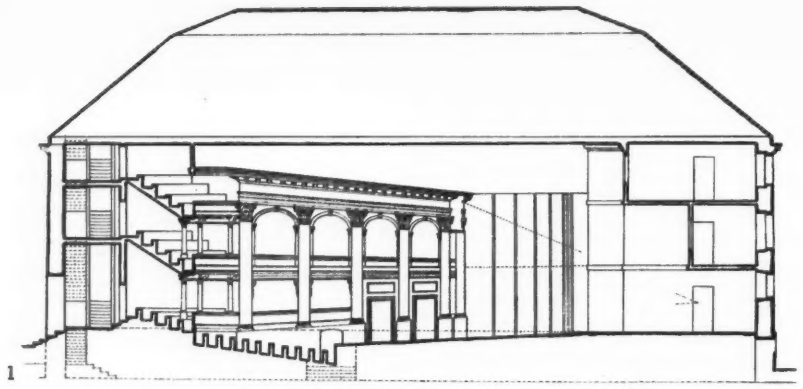
In his book *The Georgian Playhouse*, Mr. Richard Southern has drawn attention to the independence of design between the pit and the remainder of the house as being a feature characteristic of all Georgian theatres. The sunken pit was enclosed within solid walls of brick or stone, whilst the internal fittings above stage level, comprising boxes and gallery, were of timber. That a similar construction was used in the earlier Restoration theatre is suggested by the remains of the early Georgian theatre built within St. George's Hall at King's Lynn; these Mr. Southern† has designated as being a late survival of the Restoration period. In this example Corinthian pilasters, reminiscent of those used in the Wren design, are seen to have been built up around a structural timber post, and it is reasonable to assume that a similar construction was employed by Wren. In the theatres of both periods the pit was approached, through doors in the side walls of the pit, from a passage, or passages, situated on the reverse side of the pit wall; such doors appear on the Wren section, and are also seen in the Adam perspective.

It is therefore a reasonable assumption to make that when the Adam Brothers remodelled the interior of the theatre they made use of Wren's existing structural walls, and replaced his upper timber structure with their own lighter design. That this was the mode of reconstruction employed is further suggested by the obvious difficulties which the Adam Brothers experienced in relating their new design to the existing pit passage, resulting in the unfortunate manner in which the pit entrances cut into the general decorative scheme.

If this assumption is allowed, it provides the link between the Wren section and the later scale drawings of the Adams', and permits the preparation of plans and sections relating to both stages of the

* *Contributions to the History of the English Playhouse*, by Hamilton Bell. II. On three plans by Sir Christopher Wren. *The Architectural Record*, April, 1918.

† Concerning a Georgian proscenium ceiling, *Theatre Notebook*, Vol. 3, No. 1.



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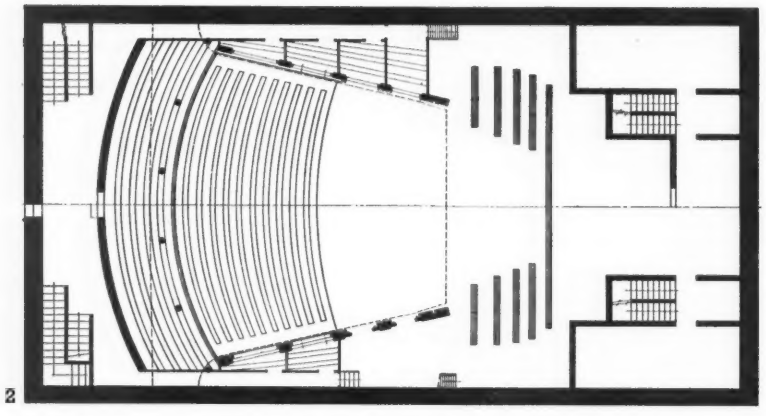
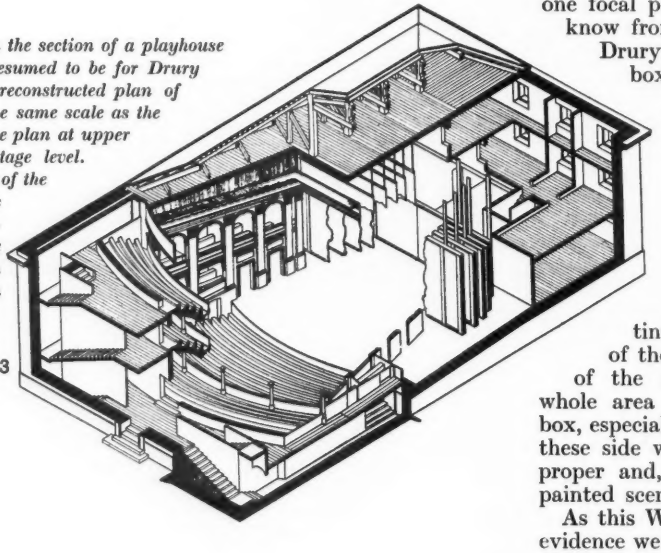


2

Wren's Drury Lane

1, a drawing adapted from the section of a playhouse designed by Wren and presumed to be for Drury Lane, dated 1674. 2, the reconstructed plan of Wren's Drury Lane to the same scale as the section. The top half is the plan at upper level; the bottom half at stage level. 3, isometric reconstruction of the same with back-stage areas further developed and typical scenery included. The roof construction has been taken from other Wren details.



3

building. The drawings illustrated here were prepared by working on these lines, as originally suggested by Mr. Southern, and although no extravagant claims are made that they are a truthful reconstruction of the second Theatre Royal, Drury Lane, nevertheless they may help towards a better appreciation of the size and general arrangement of the leading theatre of this period.

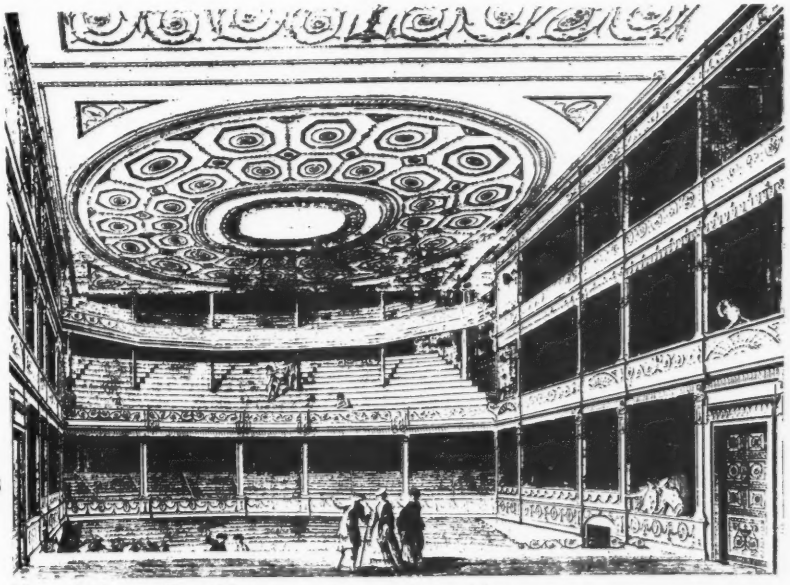
The plan, 2, of the Wren design is a reasonably straightforward interpretation of the original section, 1. One or two features have, however, been based on later plans; namely, the arrangement of the box seating, and the layout of the back-stage areas, where an attempt has been made to interpret the section in a logical manner. In the isometric reconstruction, 3, the back-stage areas have been further developed, and typical scenery has been included based on details for which I am indebted to Mr. Richard Southern. The roof construction has been adapted from other Wren details. Although the Wren section would appear to show the pit benches arranged in straight lines, they have been drawn on the curve in accordance with Colley Cibber's note on the 1696 alteration in which he says . . . 'the old stage projected about four Feet forwarder, in a semi-oval figure, parallel to the benches of the Pit. . . .'

The isometric drawing, 3, illustrates well the various features of the Restoration Playhouse. The relative areas of stage and auditorium. The main stage or acting area set within the limits of the auditorium and approached by two pairs of proscenium doors, one pair on either side. The area for scenery set behind the stage proper. The auditorium, divided into pit, boxes and galleries, arranged in a fan-shape with the side walls built in perspective; the majority of the seats being admirably placed both for viewing and hearing an actor *situated on the stage proper within the limits of the auditorium*, with the scenery forming a background feature. In a later part of Colley Cibber's note, quoted above, he speaks with glowing appreciation of the theatre at this period, '. . . the Voice was then more in the Centre of the House, so that the most distant Ear had scarce the least Doubt or Difficulty in hearing what fell from the weakest utterance.'

This feature, mentioned above, of an auditorium designed in perspective would appear to have been the logical solution for a playhouse to accommodate the form of perspective scenery which was earlier used for the Court Masques. Such scenery was designed to be correctly viewed from one focal point, the King's box, and we know from Pepys's diary that the first Drury Lane Theatre had a Royal box set in the centre of the lower tier of seats facing the stage. This tier of seats was wholly divided by low partitions into open boxes, and it is highly likely that a similar arrangement prevailed in the second theatre (although not shown on the accompanying drawings); if this were so, then it was logical to continue the perspective treatment of the scenery along the side walls of the auditorium to embrace the whole area under view from the Royal box, especially when it is remembered that these side walls also embraced the stage proper and, at this point, replaced the painted scenery.

As this Wren section is the only visual evidence we have of an auditorium of this period, it is not possible to decide if this use of perspective was in general use or was confined to this one building. It is, however, worth noting that Mr. Southern in his *Georgian Playhouse* has drawn attention to the suggestion of a similar original treatment at the Theatre Royal, Bristol. This period feature can, however, be of value to the student of modern theatre design in that it points a way in which the decorative treatment of an auditorium may be used to direct the attention of an audience towards the stage, but it should be clearly appreciated that in this particular example the walls them-

4 **the Wren interior** *Drury Lane as designed by Wren in 1674.*



5 **the Adam Brothers reconstruction** *A contemporary engraving of the auditorium.*

6 **the Adam Brothers amended** *Here the figures are enlarged to the correct scale. All of the three drawings above are reproduced to the same scale.*

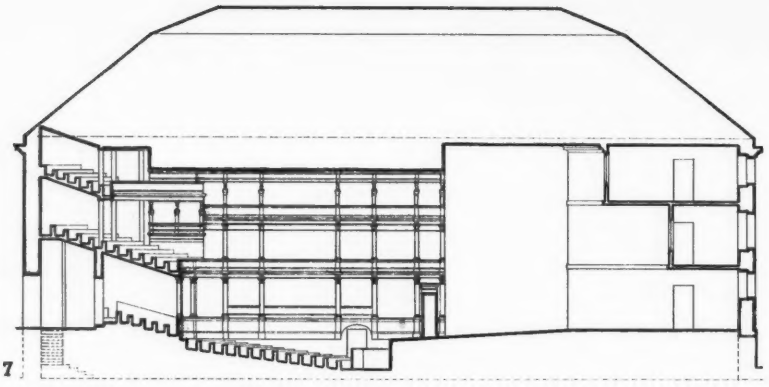
selves formed the scenic sides of the auditorium stage.

The reconstructed interior perspective of the Wren design, 4, may be directly compared with the Adam view of the interior as both drawings are to the same scale. It will be noted that various features are lacking from the drawing of the Wren interior, notably the ceiling decoration and any form of illumination; only such features as appear on the original Wren section being included in the drawing. A comparison of this drawing with the original Adam interior, 5, will reveal at once a fundamental difference between the two drawings, namely in the size of the two auditoriums. The two buildings are, however, one and the same, and, indeed, the Wren interior was set up on tracing paper over an original of the Adam engraving. How then may we account for this apparent difference? The answer is somewhat unfortunate for the Adam Brothers, and is provided by the amended drawing, 6, in which the figures have been enlarged to a size which agrees with the two scale drawings relating to the building.

The careful reader will note a number of variations from the original Adam perspective in the reconstructions of their building, notably with regard to the number of benches. With the reliability of this perspective now in doubt, it is necessary to look for confirmation of these features from other sources, and our main guide may perhaps be the interior view of the theatre as finally reconstructed by Greenwood and Capon in 1783,‡ and such notes as Capon's remark that 'there were I think 13 seats in the pit, at the theatre's demolition.'

What were the changes that led up to the Adam reconstruction? The first notable change occurred, as we have already noted, in 1696, when the curved front of the stage was cut back straight, and the two lower doors were replaced by boxes. This change marked the commencement of a movement which led directly from the 'auditorium stage' to the present-day 'picture-frame stage.' Largely activated by financial requirements, various minor amendments were made to the theatre buildings without any corresponding alteration in the general approach to theatre design. The auditorium stage was gradually eaten away, and the number of proscenium doors reduced, their places being taken by additional benches and boxes for the audience; the result being that the actor was forced back amidst the scenery, and finally, to his indignation, surrounded by a frame to enclose the stage as a picture. This act eventually took place in 1812, as far as Drury Lane was concerned, at the rebuilding of the theatre, and in view of the modern actor's violent reaction to suggestions for the removal of the picture frame, it is worth quoting, from W. J. Lawrence's *Elizabethan Playhouse*, the views of an actor of the time. '. . . For the old-fashioned proscenium arch was substituted a gilded picture frame, remote from the footlights, over which the actors were forbidden to step.

‡ Plate 4, *The Georgian Playhouse*, by Richard Southern, Pleiades Books, 1948.



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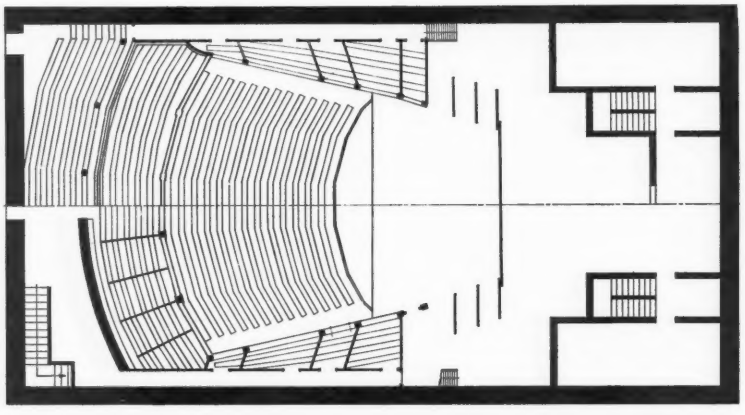
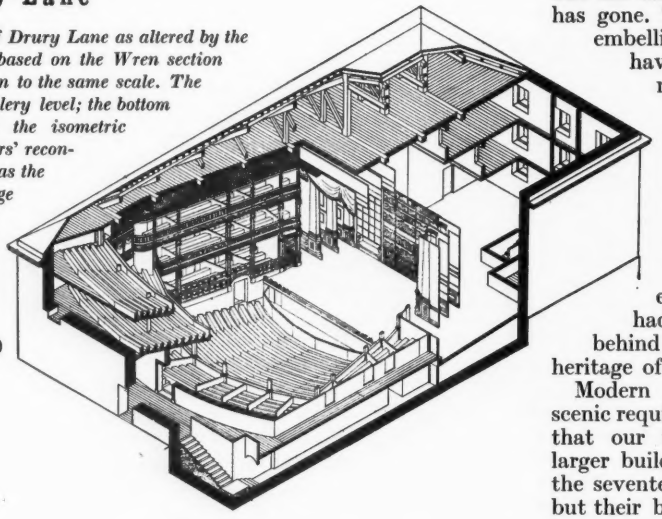


8

the Adam Brothers' Drury Lane

7, a reconstructed section of Drury Lane as altered by the Adam Brothers in 1775, based on the Wren section and 8, the reconstructed plan to the same scale. The top half is the plan at gallery level; the bottom half at stage level. 9 is the isometric section of the Adam Brothers' reconstruction, to the same scale as the Wren counterpart on page 44. This typical Georgian theatre plan marks a compromise in fact between the 'auditorium stage' and the 'picture-frame stage.'



9

Grumblings both loud and deep were heard among the players over their various deprivations, and finally, old Dowton, pluckier than the rest, broke into open rebellion. "Don't tell me of frames and pictures!" he exclaimed, with choler, "if I can't be heard by the audience in the frame, I'll walk out of it." And out of it he came. . . .'

The Georgian theatre as exemplified by the Adam reconstruction of Drury Lane in 1775 was something of a compromise. The proscenium doors were reduced to one a side, and the auditorium stage was cut back so that it was little more than a fore-stage to the scenic area behind; that this was now fully used by the actors may be seen from the well-known *School for Scandal* print of the period. The desire on the part of the management for additional seating space was provided for within the shell of the old building by the removal of Wren's upper ante-rooms, and by the extension of the middle and upper galleries over the ground floor ante-room. These features are illustrated in the section, 7, the plan, 8, and the isometric drawing, 9. This extension of the auditorium would appear to have occupied space originally assigned to stairs as well as ante-rooms; how then were these latter needs provided for?

In maps showing the first and third theatres, it will be noted that the main building in each case is set well back from Bridges Street. Among the Adam drawings, however, there is one which shows their new front to the theatre placed directly on the street frontage, but the dimensions of this elevation do not appear to have any relation to the interior of the auditorium. It would therefore seem feasible that this is the elevation to an intermediate building, set between the playhouse and the street, and housing the stairs and ante-rooms. To avoid confusion, this conjectured building has not been shown on any of the reconstructions.

In 9, then, we can see the general arrangement of the Georgian theatre, with its enclosed pit approached by a pit passage under the side boxes, its small fore-stage and one proscenium door a side, and the characteristic arrangement of entrance vestibule with gallery over. The fan-shaped auditorium is still adhered to, but the false perspective of the side walls has gone. The heavily-built architectural embellishments of the Wren building have given place to a minimum of mouldings and to painted decoration on the box fronts and the ceiling. The general plan of the Wren auditorium is still retained, even though the actor is no longer in the same relative position to his audience, and this arrangement was to continue in use, even after the auditorium stage had been finally swallowed up behind a picture frame, leaving a heritage of bad sight lines.

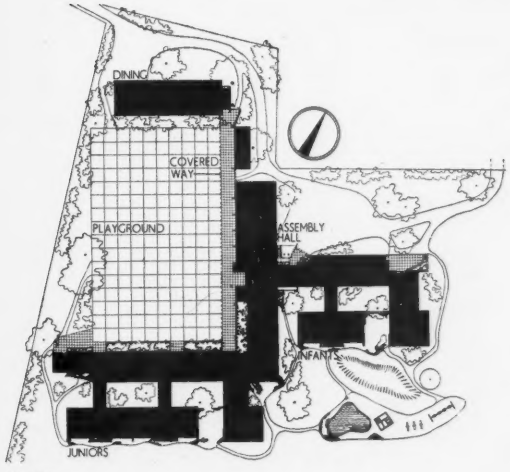
Modern ideas of comfort, safety and scenic requirements have made it necessary that our theatres of to-day should be larger buildings than these playhouses of the seventeenth and eighteenth centuries, but their basic qualities are still of vital importance to us, especially in an era when the content of the drama is once again becoming of greater importance than spectacular production. It is to be hoped that these drawings may help the student of theatre architecture to appreciate more fully some of the factors which have formed the theatre of to-day, and provide ideas on which the theatre of to-morrow may evolve.

1

Playground with assembly hall on the left.

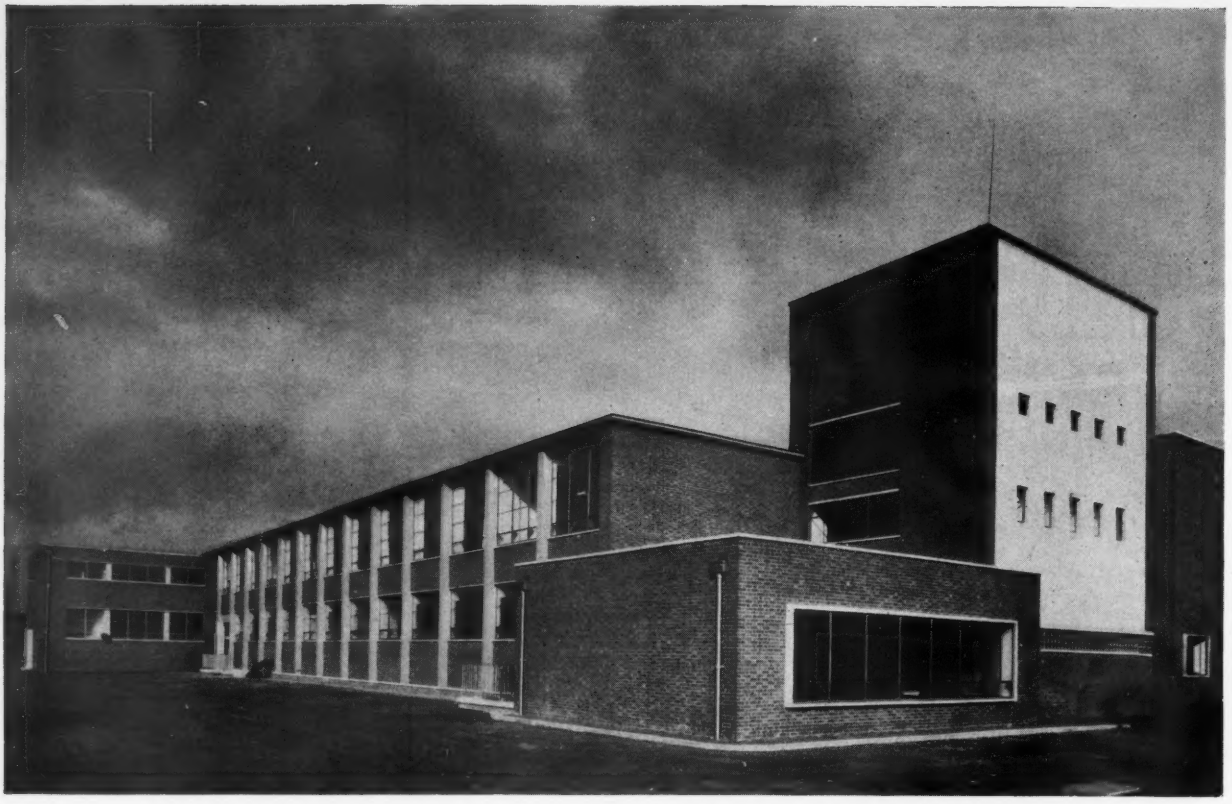
PRIMARY SCHOOL AT ORMESBY, NORTH YORKSHIRE

ARCHITECT: DENIS CLARK HALL



site plan

This new one-form entry junior mixed and infant school at Ormesby is the first school to be built by the North Riding County Council under the 1944 Education Act. The building is placed in the north-west corner of the site to reduce service roads and services and to give a maximum area of playing fields. All classrooms have sliding-folding doors opening to the south-east. The lavatory and cloakroom accommodation is approached directly from the playgrounds as well as from the main corridors to the classrooms. Construction is of welded steel portal frames with site joints at points of contraflecture and brick load-bearing cavity walls with breeze block internal walls. The roof is supported on aluminium purlins. Externally, the walls are either of local facing bricks or of common bricks finished with stone paint. Woodwork, steel windows and sliding-folding doors are painted white and the external steel columns are crimson, deep blue or chrome yellow. Internal walls are plastered and finished with flat oil paint. A typical classroom colour scheme is: back wall, mauve; blackboard wall, pink; ceiling, blue-grey; doors and beams, yellow.



2

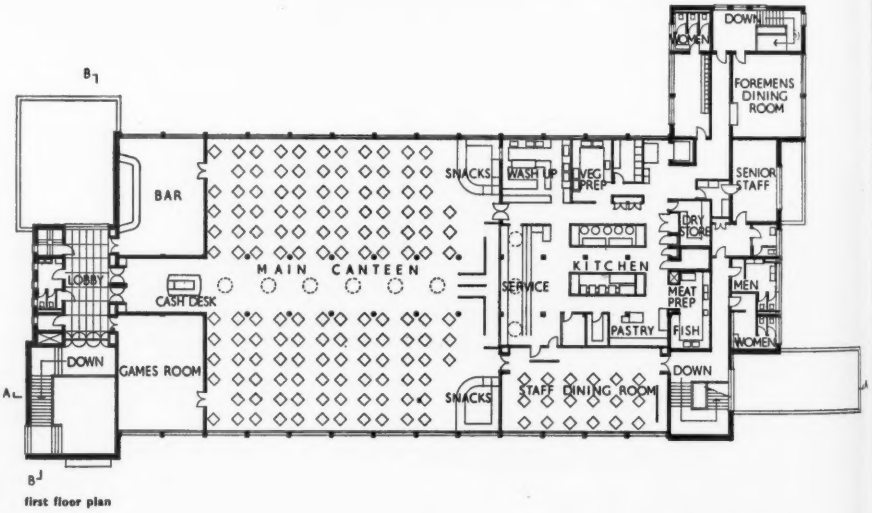
The south and west facades. 3, below, canteen back counter fitting with stainless steel top, glass shelves and reeded mirror glass back.

WELFARE CENTRE AT BECKTON, EAST HAM

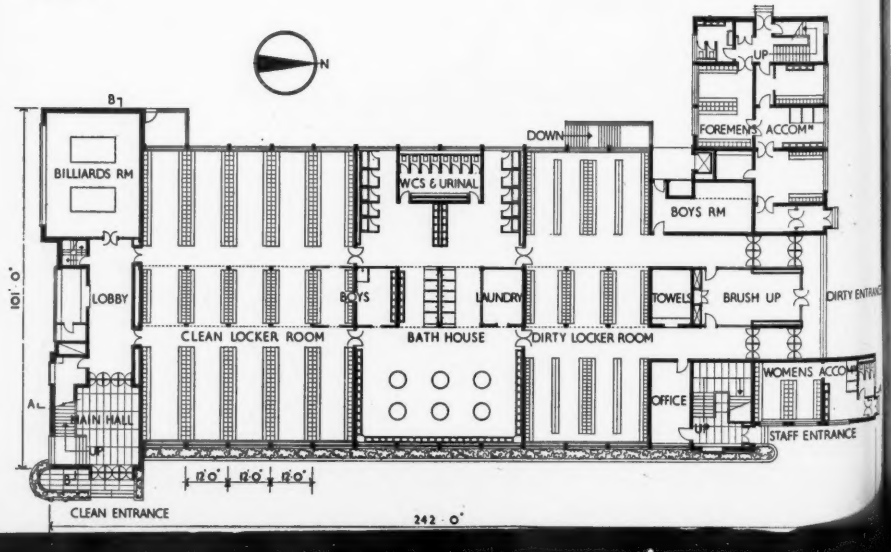
BRIAN COLQUHOUN AND PARTNERS: CHIEF ARCHITECT, ARTHUR H. SHEARING

The new welfare centre for the North Thames Gas Board, the first of its kind in this country, forms the initial stage of the reconstruction of the Tar and Ammonia Products Works. Changing, bathing and welfare accommodation are provided for 600 men, with full canteen facilities for 1,000. As the ground consists of acid impregnated slag, ground beams are encased in engineering bricks joined with aluminous cement and the entire area of the block is covered with a 2-inch layer of aluminous cement and rests on aluminous cement piles. The external skin is of hand-made sand-faced bricks, while aluminium alloy replaces steel for all fittings.

3



first floor plan



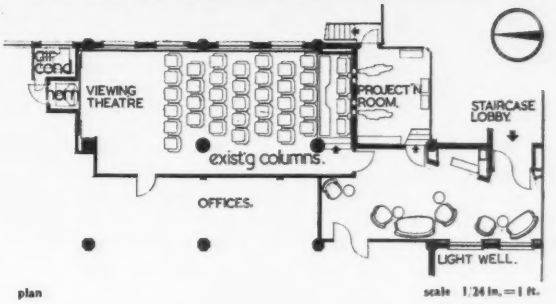
CINEMA IN DEAN STREET, LONDON

ARCHITECTS: ELSOM AND PEARLMAN

This private cinema is situated on the first floor of a block of offices. It has a seating capacity of 40 and replaces a smaller theatre. The cinema is planned within the limitations imposed by the existing building: 2-foot diameter octagonal columns at 16-foot centres, a ceiling height of 10 feet and a height of 8 feet 9 inches to the soffit of the beams. An extra skin of 2-inch breeze blocks was added to the existing wall; partition walls are of 4½-inch brick, battens, insulation board and plaster board. Columns have been cased with fibrous plaster and ceilings are of ¾-inch suspended fibrous plaster. No special acoustic treatment was considered to be necessary. The floors generally are fitted with close carpeting, the cinema carpet having two layers of felt beneath. Walls are finished partly with mahogany veneer and partly with grey paint. The foyer east wall has reeded sycamore panelling, with the other walls of mahogany veneer. Ceilings in the cinema are grey, in the foyer, white. The tip-up seats in the auditorium are wood frame with foam rubber upholstery and moquette covering, 3 feet 3 inches from back to back, tiers rising 2 inches. Door handles are purpose-made cast aluminium, lacquered. Venetian blinds in the foyer are of aluminium painted ivory. Lighting is by concealed cold cathode tubes.

4

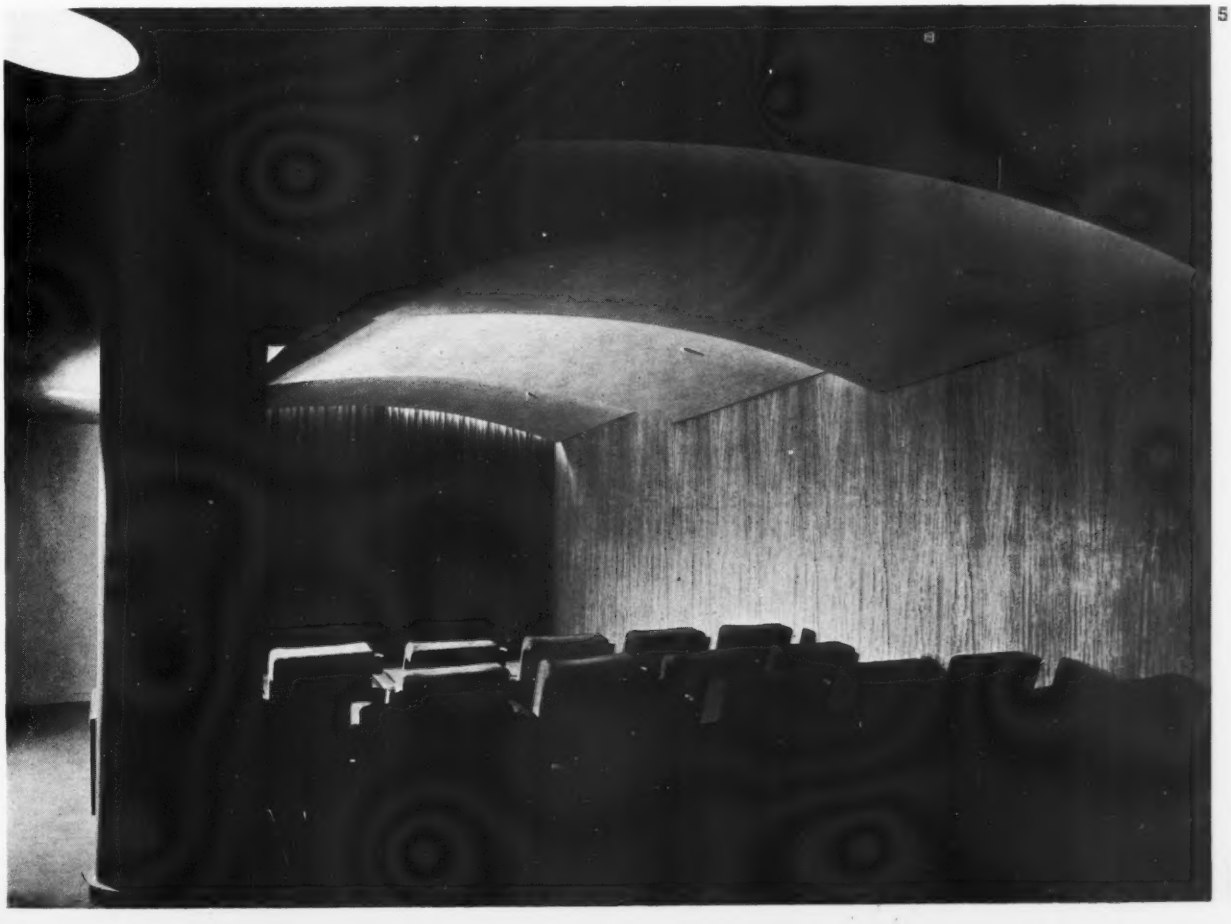
Control desk at the back of the auditorium.

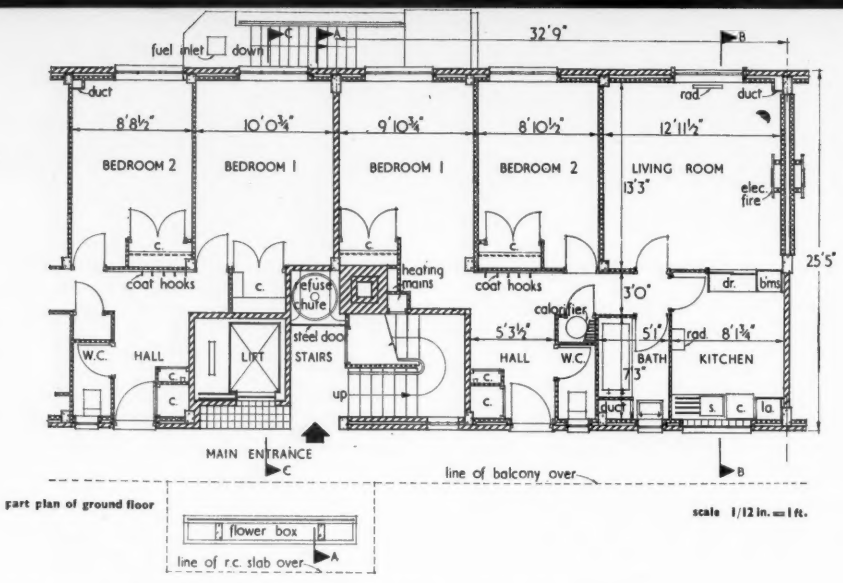


plan scale 1/24 in. = 1 ft.

The auditorium.

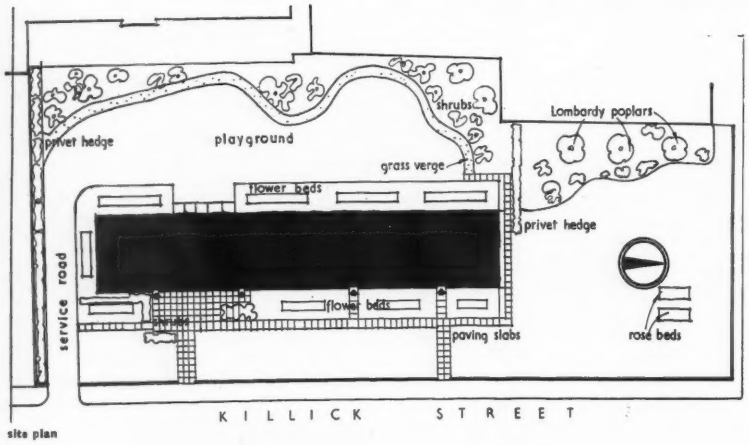
5





FLATS IN KILLICK STREET, FINSBURY

ARCHITECT: JOSEPH EMBERTON



site plan

Stuart Mill House, which was built for the Finsbury Borough Council, contains 24 flats of 3 or 4 rooms, and accommodates 108 people. To reduce rents direct access from two lifts was replaced by balcony access from one lift. The framework is of *in situ* reinforced concrete with hollow tile floor and roof, the outer skin being flint bricks. Party walls are insulated from the structure with fibre board at top and ends, and with felt at the foot. Living-room floors have 1½-inch floating screed on 1-inch fibre glass mat. Internal walls are mainly plastered and finished with a flat washable paint.

6

The east facade from Killick Street.

STREET LIGHTING GLOSSARY

OIL *The flame is fed from a wick soaking constantly in a container of kerosene/paraffin and it is drawn up by a glass chimney.*

ARGAND BURNER *This gas burner consists of tubes, one contained in the other, the space between them closed top and bottom with a steel ring. Gas enters from one side and the upper ring is perforated to act as a set of vents. The air space inside the centre tube provides an up-draught to lift the flame.*

INCANDESCENT GAS *The flame of a Bunsen burner (a mixing tube for gas and air) is directed on a chemically treated fabric or mantle shaped to fit the nozzle of the burner.*

WELSBACH SELF-INTENSIFYING LAMP *By use of an unusually high extractor the velocity of the air-gas mixture passing through the mixing tube is increased to give a boosting effect.*

INVERTED GAS BURNERS *Incandescent burners with mantles were first of the upright pattern but these sent too much light upward, and in* 1895 *the first inverted burner with the mantle suspended was introduced. Later, with the* Littleton *burner, a superheater was added which suspended several mantles from one mixing tube.*

ELECTRICITY *In* 1877 *the first electric lamp—the* Jablochkoff Candle—*appeared, consisting of close parallel carbons separated by a fusible compound.*

ARC LAMPS *The carbon arc of* 1879 *was a naked electric discharge or continuous spark between two carbon poles. The mercury arc first used in* 1890 *had for electrodes, instead of carbon poles, a small pool of mercury with a graphite cylinder or iron cup for the anode.*

TUNGSTEN LAMPS *The first filament lamps had a carbon filament which though robust gave insufficient light. Tungsten filaments which could burn at far greater heat followed and later the vacuum glass was added to reduce dispersal of heat. The latest pattern has a coiled tungsten filament in a glass bulb filled with inert gas to reduce heat radiation still further.*

MERCURY DISCHARGE *The lamp consists of an outer glass case and an inner tube. The latter contains the electrodes, a small amount of mercury which is vaporized by the heat, and a rare gas, usually argon, to serve as a conductor. The high heat of combustion is retained by a vacuum between the inner tube and the glass case.*

SODIUM VAPOUR *Well known by its deep yellow light, this lamp is similar to the mercury discharge lamp, except in the inner tube the discharge is started in neon gas, the heat vaporizing some of the sodium.*

STREET FURNITURE

SURVEY OF STREET LIGHTING

Lamp-standards are among the worst offenders in the contemporary street scene. It is hard to discover exactly why they are as bad as they are; but clearly the indifference of designers and public to the history and technicalities of the subject has something to do with it. The survey that follows is an attempt to fill this gap in what should be everyone's general knowledge. In the preceding column is a glossary of technical terms.

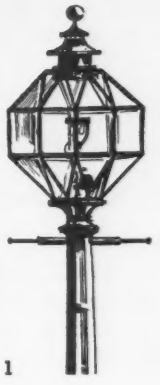
Lanterns before 1900

Until 1836 street lighting was more or less the responsibility of the householder, and lantern design depended on his taste. There still exist, attached to the railings of old houses, the brackets that held one's private oil lamps. After 1836, local authorities took over the responsibility for lighting the streets and levied a tax on householders to pay for it. Oil lamps were used at first, but later, with the gradual introduction of gas-lighting, lamp-posts made their first appearance.

From about 1870 lanterns began to appear in a great variety of designs. Ratepayers in the better-class districts, especially of London, were able to choose for themselves lanterns and columns in keeping with the style of their houses. At this time also, many parishes had their own designs. Iron columns were often cast specially for estates and parishes and examples of these can still be seen in Kensington and Westminster. 1 is an early gas lamp of 1827 designed with forty facets and still standing in Trafalgar Square, though out of commission.

Lamps often took their names from the district or town that had first adopted them. Examples of this in the 1880's were the *Camberwells*, the *Metropoles*, the *Yorks*, the *Victorias*, the *Newingtons*, the *Lambeths*, the *Westminsters* and the *Warwicks*. A number of them are still in service, although all have been refitted with conversion sets, i.e., inverted gas burners, or with electric light. The *Camberwell*, 2, is still to be found in Bermondsey equipped with both the very old style cradle support and the more usual frog support.

A characteristic feature of street lanterns of this period was the white glass canopy.



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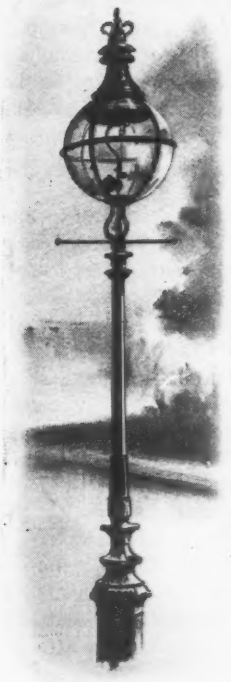


3

This formed the upper part or roof and almost all lanterns were made in this way, even those of the decorative globe type. Many of the latter were made by William Sugg* for Hyde Park, 3, Trafalgar Square and Northumberland Avenue, 4—a few are still in use in Hyde Park, though without the original glass, and very fine they are. Others, including some large-size examples, are still to be seen both inside and outside the courtyard of the Houses of Parliament, 5.

In 1879 William Sugg invented the *Lambeth* and the *Westminster* lanterns for high power flat-flame burners. Another of his designs was the *Whitehall*, a circular lantern fitted with Argand burners which was installed in Whitehall and on the promenades at Brighton, Hastings, and

* See INTELLIGENCE note on page 64.

4

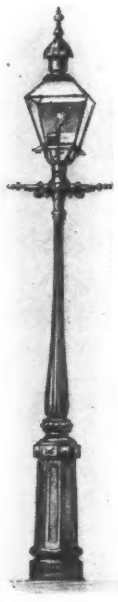
5

St. Leonards, for they had the advantage of maintaining a steady light in windy weather.

Another interesting lantern was the *Warwick*, 6, probably of the 'nineties. Several still remain in service in the centre of Birmingham. These lanterns, which were originally fitted with flat-flame burners, have since been adapted to take inverted burner conversion sets, though still retaining their opal glass panels in the roof.

The system of incandescent gas lighting was first tried in London in 1895, and the lighting engineer to the Kensington vestry reported that during the months of January, February and March of that year, 31 incandescent lamps, each with an illuminating value of 60 candles, were in use for an average period of 1,168 hours. Many are still in service in the Borough. The lanterns were hexagonal and fitted with an unusual door, hinged from the top instead of at the right-hand side. They are now no longer satisfactory because of the numerous shadows they throw, and since 1928 many have been converted to electricity and fitted with glass refractors attached to the porcelain reflectors, which are turned upside down for the purpose.

The Edgar *International* lamp, 7, came into use in the 'nineties. Its hexagonal lantern was made for high pressure lighting and from the design of the ventilator, they came to be known as 'umbrella-top' lamps. Others, with an even greater similarity to an umbrella, were installed in the Holborn and Oxford Street districts, their lanterns being supported by two arms, with a large glass bowl suspended from a metal ring within the canopy. A lamp of this type is still in service in Ealing, but has been converted to



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electricity and the glass bowl has gone. Umbrella-top lanterns are still to be seen in the borough of St. Marylebone, and though converted to electricity, are in fair condition, considering their age.[1]

Many lamp columns still in existence date back to the early days of street lighting, especially the short type pattern Group B columns.[2] Probably the earliest examples are those in the Regent's Park district. In York Terrace and in York Gate there are a number of George IV (Taylor Bros.) columns, while those inside the

11

12

Park are George IV (Pearse) columns, 9, a design which has been copied by most column manufacturers. Now known as the *Groveland* pattern, they are to be found throughout North and South London.

The columns at Hyde Park Corner, 10, which were designed by Decimus Burton in 1827 to harmonize with the Park entrance, are among the best from a period which seemed to take the design of street lighting, as it did nearly all the rest of the paraphernalia of a town, in its stride. The *Pontifex* and *Emmanuel*, 11, are possibly the best known examples of mid-century columns. They were made in two sections with the top part fixed into the base by means of a circular-shaped wedge. Some of them were later lengthened by means of an extension sleeve, and may still be seen in Gray's Inn Road.

The City of London has two different patterns. These are Group A standards which were originally arc-lamps, and refuge columns, 12, which usually support two tungsten electric lamps.

Lanterns 1900-39

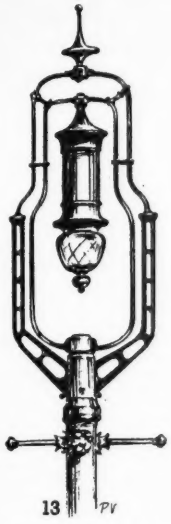
With the introduction of electricity, the design problem changed radically, although many lamps were to hark back to gas, in their design, for years to come. The electric standards were taller than those used for gas, the local authorities in St. Pancras, Hampstead, Hackney, Willesden, Stepney and the City of London being among the first districts to erect their own designs for arc lighting. Many of these are still in use today, though long since converted to take tungsten or mercury lamps. Examples are to be seen in the City of London, 13 (the knobs have been removed from the lower portion of the glass). The globes on these lamps varied in size, those in Stepney, 14, being much larger. These were also always of clouded glass to diffuse slightly the brilliant pinkish-coloured light, and surrounded by a wire safety net.

But at the same time during this period gas lamps still were being made in greater numbers than ever, the best known being perhaps the *Caxton* lantern, similar in design to 9, and the *Windsor*.

A more unusual design was the *Eclipse*, 15, forerunner of many in its class and one of the first gas lamps to have a swan-neck fitting. Others that appeared about

[1] Among the specially made lanterns that are worth recording are those at Windsor Castle, 8, with ventilators made in the shape of a crown resting on a cushion, complete with metal tassels.

[2] Group B columns are those placed along secondary roads and vary between 12 and 15 feet from ground level to source of light. Group A columns are those placed along main roads and are nowadays approximately 25 feet from ground level to source of light. These dimensions are based on the recommendations of the Ministry of Transport Departmental Committee Report published in 1937. Earlier lamps which were built to either of these heights are given the modern designation.



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this time were the I.C. lamp, 16, which was fitted with a perforated copper gauze at all intake points, and had a very high and rather grotesque spire, and the 'back lamps,' 17, which, as their name signifies, were designed for fitting to walls of passage ways. The example illustrated has a porcelain reflector with a silvered centre and an upright incandescent burner.

In 1907, Keith and Blackman high-pressure lamps were first introduced, and in this case it was the lighting system that

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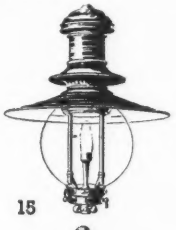

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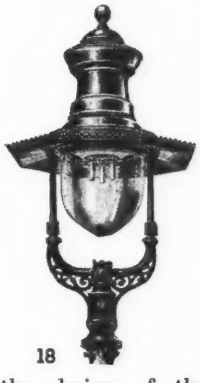
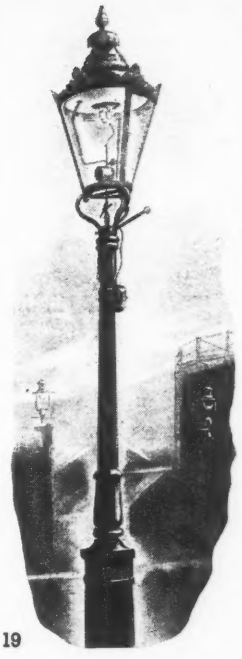


18

mainly determined the design of the lamp. The lamp which nearly every Londoner must know, even if only subconsciously, is the *Keith column lamp*, 18; many of them are still to be seen in Westminster, Holborn and Regent Street.

Columns 1900-39

Many London districts selected a particular pattern of column to be used throughout their areas. Of these, distinctive designs were to be seen in Wanstead (with a wide base to house a gas meter), Hackney and Stoke Newington (both of the same pattern),



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Hornsey, St. Marylebone, St. Pancras, Hampstead (*Groveland*), Stepney, Wood Green, Tottenham (*Groveland*), Chelsea (panel columns) 19, the City of Westminster 20, and the City of London. The more modern *Eddystone* standards 21, appeared in Westminster and in districts served by the South London Gas companies about 1910.

But this was largely a period of conversion and extension as far as columns were concerned. Gas columns were lengthened with sleeves and fitted with improved gas systems or converted for electricity. Or where new columns were provided their design retained as far as possible the character of earlier styles incorporating in their stride the pendant method of hanging the lamp by a crook

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suitably disguised. In the case of the older vertical columns a swan-neck extension solved this problem as in the case of the *Littleton* or *Rochester*, 22. In 1930, St. Marylebone Borough Council replaced many of its short columns in the Welbeck and Wimpole Street areas with Group A lighting and the original lamp-standards in Oxford Street and Regent Street were replaced. New columns in other parts of the Borough, 23, although fitted with the latest *Wembley* pattern lantern with two glasses, were of similar design to those they had replaced.

The real newcomer at the end of this period was the mercury discharge lamp installed in many parts of London and

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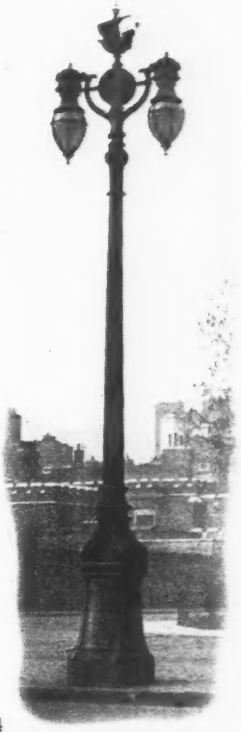

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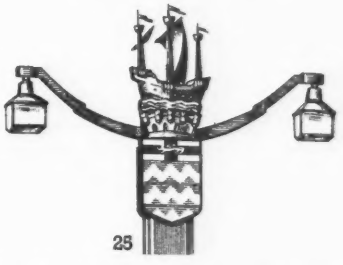

25

the provincial cities. These lamps were frequently fitted to tramway poles or once again to existing standards.

The decline in the appearance of lamp-standards during this period was particularly marked in the special ceremonial examples along the Mall, 24, designed by Sir Aston Webb in 1913. The ridiculous galleon was to be repeated in 1939 on Chelsea Bridge, 25, on an even more inept standard.

Lanterns and columns 1945-51

Since the war, many technical improvements have been made in street lighting, though this has, unfortunately, not led to comparable improvements in design. Particularly is this so with columns. 26 is

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an '*Avenue*' type column and the 'S.C.' concrete bracket fitting made in a modified swan-neck design. This group B type column has destroyed the character of many unassuming suburban streets. A variation on it is used in 27, with an electric lantern suspended from a curved extension piece, and exhibiting a coarseness of detail that is peculiar to the modern concrete lamp-standard.

An extraordinary design, which has been widely adopted for traffic islands, is the *Gowshall* 'improved refuge lighting column,' 28. Presumably cheap to produce, it has an illuminated opal globe on top of a tall tubular pole which is welded into a bollard-type base. Most of the light is thrown into the sky, and it is hard to discover any logical reason for its use.

Concrete, tubular steel (already in use before this period) and alloy tubes have now completely replaced cast-iron for columns. Concrete, since it is cast, can be used in a variety of shapes. A tapered post cast in a hexagonal section is most frequent and the *Revo* '*Phidias*,' 29—in this case fitted with a *Revo* '*Sol-etern*' fluorescent lantern—is typical. This hexagonal shape was adopted mainly for reasons of cost. The moulds for forming it meet at the natural edges, and this keeps finishing costs low. The columns are produced for stock in quantity without any particular lantern in mind. Extension pieces and adaptors have to be used to meet the technical requirements of the different lanterns that may be fitted to it. The aggregates used in the concrete are normally the cheapest that are consistent with the strength required. The many aggregates that would improve the texture and colour can only be had for special orders, naturally at a higher price than that for stock patterns. Variations in section and shape are only to be had on the same terms. So we are saddled with a

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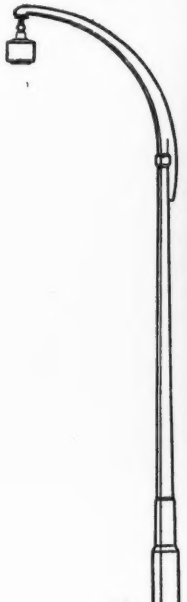
clumsy stock column designed for no particular lantern, and since each is made quite independently, it is not surprising that the final standards are often incongruous as well as ugly. In some cases specially designed new lanterns are fitted on to old columns with particularly nightmarish effects. 30 is an outstandingly unpleasant piece of seaside whimsey at Southend. In 31 a jazzed-up fluorescent fitting has been added to an earlier cast-iron standard.

A borough surveyor who wants a really satisfactory lamp-standard has to make a case to his Council for specially designed and therefore more expensive columns. It can then be pointed out to him that the Royal Fine Art Commission has approved the stock pattern, 32, for this body has to pass all street lighting fittings used on trunk road systems before the Ministry of Transport will assist the local authority financially. The devastating effect of standards like these is shown in the photograph of a street in Hyde, Cheshire, 33.

So, unless the manufacturers think again, or unless Councils realize the iniquity of destroying the little character



32

we have left in our streets with ill-designed twenty-five-foot concrete poles, little positive action can be expected.

The situation is just the same with steel tube and with alloy columns, except that in both materials there is not quite so much opportunity for heavy-handedness. The steel tube columns available today are either of straight tubes, of fluted circular section or of successive lengths of straight tube of diminishing diameter, 34. Tapered tubular columns similar to those used on the Continent are not produced in this country, as there are not machines large enough to make them.

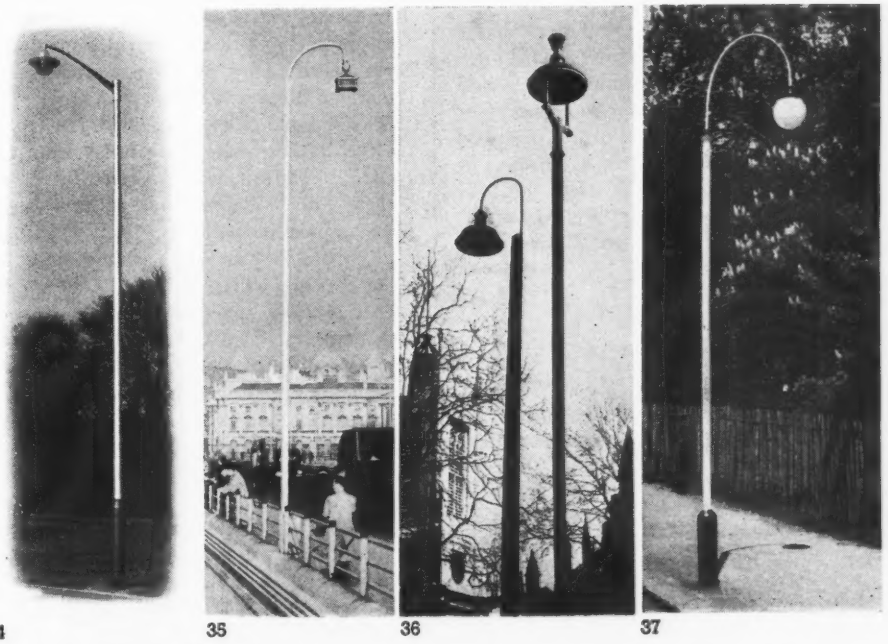
The types most commonly used are the fluted and the stepped varieties. With hardly an exception, the dimensions for both flutes and steps and for the bollard-type bases appear to be selected without regard to proportions. At the top, brackets and lanterns are tacked on with no better results in appearance than those achieved with concrete.

Light alloys are a more recent development for columns than either concrete or steel tube. The columns are made in sections and are extremely light to handle, the original '*Adastra*' being a tapered column without the usual bollard-type base.

In two temporary London lamp-posts economy has, as is so often the case, been the agent of good design. One of them is to be seen on Waterloo Bridge, 35; it is to be replaced, however, by a permanent and more monumental standard at a future date. Ending the vertical in a simple curve like this would seem a much better solution than the tacked-on arm of 33 and 34. The other temporary standard, primitive though it was, could be seen recently in Parliament Square side by side with the permanent standard that, much too soon, replaced it, 36; again the lantern was supported by a simple curved tube, this time on a square-section tapered column. Though this example could hardly be put forward as the model for a permanent standard, it is far sightlier than the tricked-up models that replace it.

With the Festival of Britain a new approach begins to be evident, and the final example, 37, is taken from Battersea Park. Though designed in a hurry, using steam pipes from stock and a standard light fitting, the effect is particularly appropriate for the setting. The Battersea standard may well mark the beginning of a new era of design in street lighting, reversing the decline recorded in this survey.

Peter Varnon



34 35 36 37

INDOOR PLANTS

HEDERA MARMORET (or MARMORATA)

Hedera *is the Latin name of the Ivy. More than sixty varieties of this evergreen climber and trailing plant are to be found in Europe.* *Hedera Marmoret* is an Irish ivy similar to *Hedera hibernica* except that its leaves are larger and broader and that they are blotched and mottled a yellowish white. Other handsome variegated ivies are *Hedera*

marginata which, as its name implies, has a silver margined leaf, and *Hedera marginata aurea* with yellow margins.

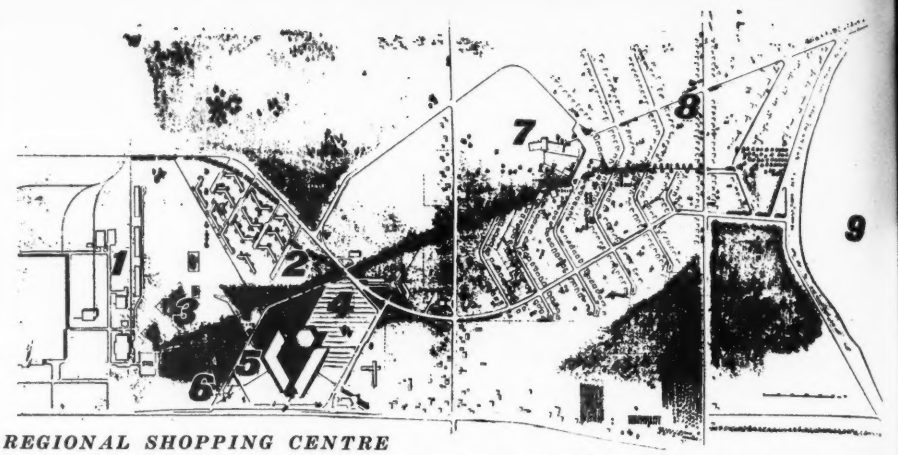
Ivy plants should be placed in an east or west window and not in direct sunlight. They will thrive in most kinds of soil, and though they will endure almost any conditions they are healthier if grown in a general purpose mixture and kept moist and cool during the winter. This will prevent attacks from spider mites and scale insects which are their worst enemies. Cuttings will root readily if placed in water. These ivies are useful both as trailing or climbing plants, and look their best in association with smaller leaved vines, such as the *Cissus striata* and *Tetrastigma.*

H. F. Clark

TOWN PLANNING

REGIONAL SHOPPING CENTRES

As elsewhere, urban decentralization in the United States has taken the form of suburban growth. The 1950 *census revealed that this growth has, during the last decade, been several times that of the city centres.* A neighbourhood outside Detroit, for example, grew by 952 per cent during this period. A suburb of San Francisco increased by 100.3 per cent, and the city itself only by 21.8 per cent. The absence of control through town planning has meant that economic, social and civic facilities have in no way kept pace with this development and particularly is this true as far as shopping facilities are concerned. To fill the gap a number of retail companies have built suburban shopping centres. One of the largest of these is that of the J. L. Hudson Company on a 103-acre site in the Detroit suburbs. The area will be wholly dependent on car-borne shoppers. A similar shopping centre, operated by a single company, is already thriving on the outskirts of Seattle, although opened only a few months. In order to retain the element of competition the operating companies rent part of their space to competitors. It is thought that without the opportunity for comparing prices of rival stores, this form of shopping would not attract the American housewife.



REGIONAL SHOPPING CENTRE

plan of Portage Road Development, Michigan, opposite, right, showing: 1, *company's plant;* 2, *rental housing;* 3, *recreation area;* 4, *shopping centre;* 5, *theatre;* 6, *bank;* 7, *school;* 8, *residential;* 9, *Austin Lake.*

The regional shopping centre, illustrated on the left opposite, nine miles from the centre of Detroit, was designed by Victor Gruen* in collaboration with a team of economic consultants, traffic planners and so on. It provides parking space for 6,000 cars and will contain 1,250,000 square feet of rentable space, of which the operating company will take 350,000 square feet. For the operating company's own store (the circular building) roof-top parking is planned. Shops will range from large department stores to the small kiosks. The centre is approached by two four-lane arterial roads. Delivery access will be separated from shopping traffic by provision of an underground road from the residential perimeter to the basement area of the shopping centre. There will also be a theatre on the site as well as a children's nursery. A path will be laid on an adjoining ground acquired by the operating company to prevent 'pirate' stores setting up and using the existing parking space.

Construction is of pre-cast concrete. Individual shops are 20 feet by 47 feet, the spans being bridged by concrete beams three feet deep, into which all main ducts are laid. Ceiling heights are 17 feet. All buildings are heated from a central system, but air conditioning is provided by individual tenants.

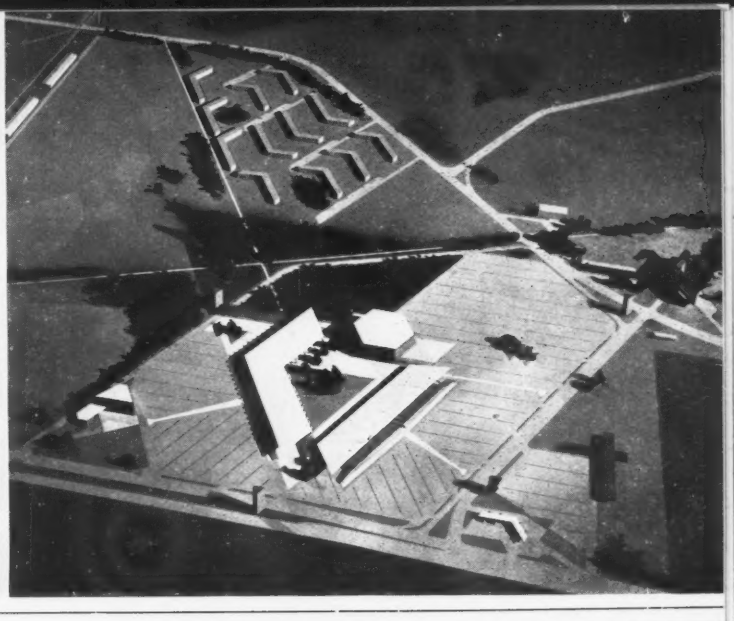
Right, opposite, is a shopping centre for the Upjohn Company, Kalamazoo, Michigan, also designed by Victor Gruen. The shopping centre is in the foreground: behind is part of a neighbourhood unit to be constructed by the Company for employees working on their nearby chemical plant, two units of which can be seen on the extreme left.

* Partner in the firm of Victor Gruen and Krummeck who designed the department store outside Los Angeles. AR December '50, p. 396.

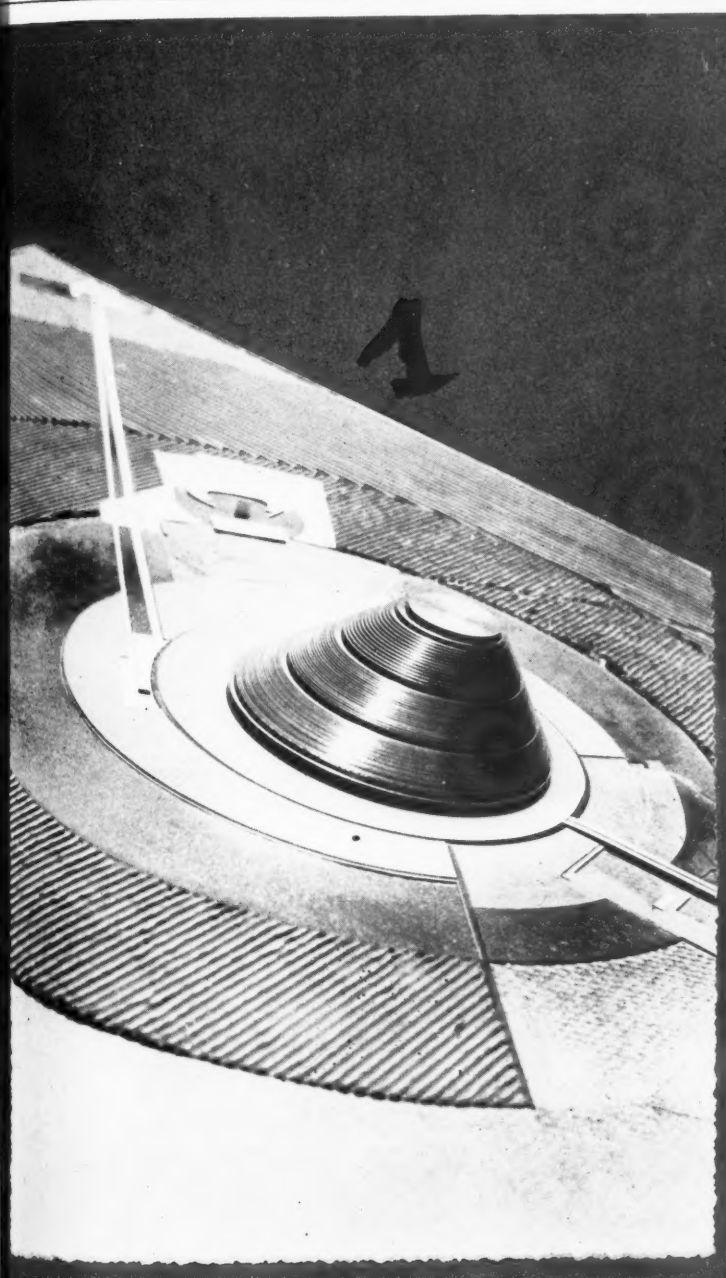
CITY FOR 100,000 INHABITANTS

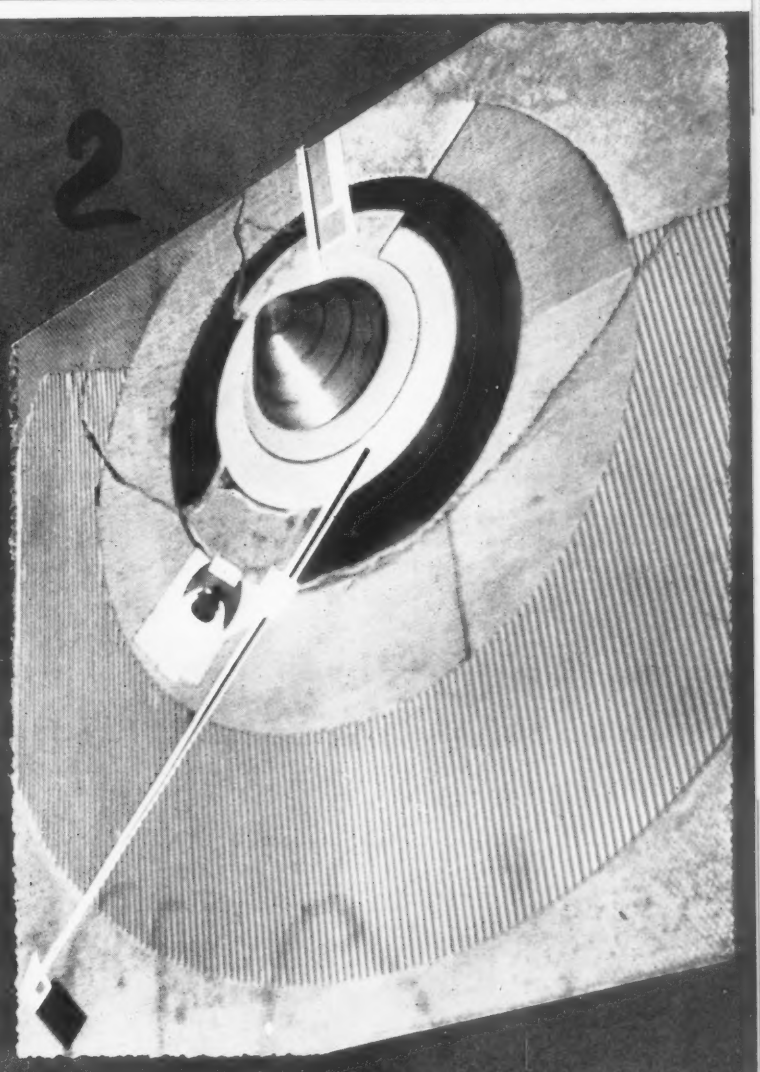
Designing 'ideal' cities is a pastime that never seems to pall. The latest comes from France where a young architect, Jean-Claude Mazet, has recently been employed to plan in detail a city conceived by M. André Chauvin, a well-known businessman.

The result is the model, 1 and 2 opposite, which was recently exhibited at the Salon des Réalités Nouvelles entitled 'A Pyramid House for 100,000 People.' Briefly the city is made up of three zones superimposed on each other to form a pyramid surrounded by four main terraces or boulevards. The outside 'skin' of the pyramid houses a variety of dwelling types. The roof is an airfield for aeroplanes and helicopter-buses which jump from one pyramid town to the next. Industry forms an inner core to the whole complex. Between this industrial core and the outer dormitory skin

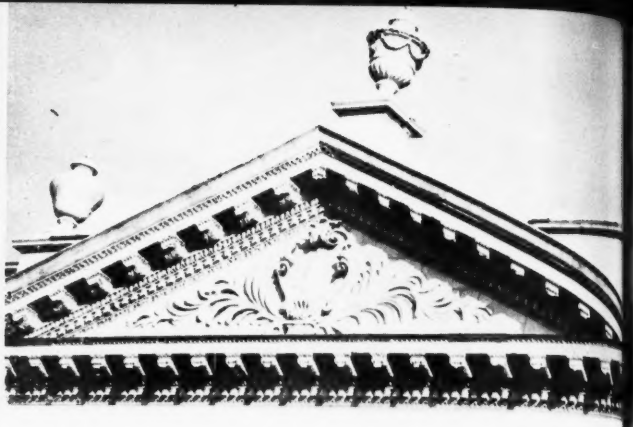


town planning: regional shopping centres





city for 100,000 inhabitants



architecture: the Senate House cleaned

trim: railings, ornamental v. plain

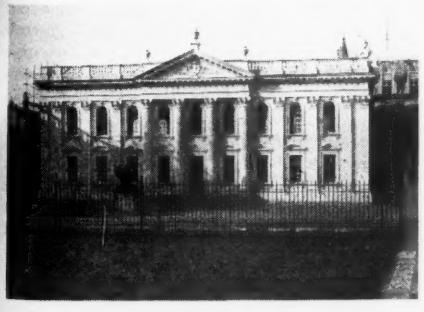
is a secondary pyramid, served also by boulevards, containing cinemas, libraries, meeting-places, garages, and batteries of lifts resembling enormous organ lofts. This whole series of structures would be supported on a gigantic steel frame. On the exterior of the pyramid there would be a funicular railway. Motor highways lead into the interior, and a green belt four miles wide surrounds each pyramid.

ARCHITECTURE

THE SENATE HOUSE CLEANED

The cleaning of buildings is a process to be approached with caution—especially when Portland stone is concerned, for soot has a pretty way with Portland stone. Still, the time comes when cleaning is necessary in the interests of mere preservation, and then it may be found that we can count some new (if temporary) blessings to offset the lost charms of patina.

So it has happened in the case of James Gibbs's Senate House at Cambridge,* the results of whose recent cleaning are recorded in the photographs on the opposite page and in the one below. To those familiar with



the building in its previous state its present whiteness may seem to give it an air of unreality; some dignity has gone; the first shock of it is rather like meeting one of your oldest friends naked in the street. On the other hand, for the first time in a lifetime it is possible to enjoy the richness and the splendidly organic quality of the carved detail—so infinitely removed from the dry engravings through which Gibbs and co. publicized their designs. The order is that of the remains of the temple of Jupiter Stator in Rome, as given by Desgodetz for example (though with the cornice a trifle simplified); what one would like to know, and what not even Willis and Clarke in their monumental volumes tell, is the names of the masons responsible for this rendering of it—names no less worthy of survival than those of Artari and Bagutti, who carved the ornamental plasterwork of the Senate House interior.

Marcus Whiffen

* Foundation stones laid June 1722; building officially opened July 1730. The chief contracting mason was Christopher Cass.

TRIM

RAILINGS: ORNAMENTAL v. PLAIN

The basic requirements of a handrail to a flight of steps are simple enough. Yet in spite of that—or could it be because of it?—the tendency to overdesign is in nothing more rampant. Take the specimen in the first photograph opposite. That it is neither easy on the eye nor accommodating to the hand (one of the tests of a handrail, after all) is putting the matter mildly: it would be difficult to find anything much more inept. But where does the root of the trouble lie? Partly of course in the fact that whoever designed this monstrosity thought it proper to pretend that it was not cast iron but wood—though to be sure it would be groggy enough if it were. (When he came to the risers of the steps themselves he didn't know quite what to pretend.) But if one digs deeper one finds it in an attitude of mind, the attitude that refuses to accept the admirable precedents which the functional tradition has provided us with and instead tries to impose the designer's personality, will-to-form or what-not, where such things are best kept in the background. The second photograph shows a completely satisfactory vernacular solution. A score of plain rods for the banisters, a curl at the end of the handrail to finish it off, and the thing is done. Yet no—not quite; for if you look carefully you will see that there are two thicknesses of banister, used alternately—a subtlety which adds greatly to the liveliness of the effect and one of a kind that may be paralleled in the functional tradition time and again.

I. Smith-Raeburn

BOOKS

CATHEDRAL BOOKS

THE CATHEDRALS OF ENGLAND. *Edited by J. Blair and J. K. Cowley. Chambers.* 4s. 6d. ENGLISH CATHEDRALS AND ABBEYS. *Introductions by John Pennington. Odhams.* 9s. 6d. THE ENGLISH CATHEDRALS. *By Herbert Felton and John Harvey. Batsford.* 18s. ENGLISH CATHEDRALS. *Foreword by Geoffrey Grigson; photographs and Introduction by Martin Hürlimann; descriptive text by Peter Meyer. Thames and Hudson. Distributed by Constable.* 30s.

Four books on English cathedrals have recently come out. They sell at 4s. 6d., 9s. 6d., 18s. and 30s. For 4s. 6d. you get 144 small pages with 110 illustrations, for 9s. 6d. 16 pages of text and 130 separate illustrations with longish captions, for 18s. a text of 76 pages by John Harvey, some tables and 175 photographs taken specially by Mr. Felton, for 30s. a 2-page foreword by Geoffrey Grigson, a 7-page introduction by Mr. Hürlimann, who also took the 165 photographs which are reproduced much larger than in the other books, and 24 pages of scholarly notes by Professor Peter Meyer. He has six ground plans, Mr. Harvey seven, the others none. So in that respect all four books leave much to be desired. Konrad Escher's *Englische Kathedralen* (Munich 1929), a book by no means superseded by any of the four newcomers, had fourteen and that was not enough. Where Escher (48 pages of text and 155 illustrations) scored over the others was in his detailed notes on the individual cathedrals, the best inventory of their architectural features and furnishings ever given. It fills 55 pages of close type in telegram style.

The two inexpensive new books serve, of course, quite a different purpose, and serve it well. The Chambers book is called an illustrated guide and souvenir, and in its covers, end-papers and layout it is clearly that and no more. But it contains notes on all the cathedrals, old and new, and on each of the old ones several pages of history and description, without doubt useful to the uninitiated cathedral-goer. The Odham book deals with abbeys as well as cathedrals. It is frankly selective as far as abbeys are concerned, but it includes such lesser-known places as Dunstable, Torre, Tutbury, Worksop. Little can, of course, be said of the individual building, but what is said seems on the whole reliable, and the short general introductions to the book and to the regions of England are decidedly well done. They tell of such things as what monastic orders there were, what monasteries looked like, how medieval building was organized, what new cathedrals have been founded since the reformation, and how one can distinguish the styles of medieval architecture. The illustrations are well printed in half-tone, and the price is remarkably low.

Compared with it, the Thames-and-Hudson book may seem at first dear. But it is larger in format, the photogravure plates are carefully printed, the photographs are often taken with great sensitivity and sometimes amount to discoveries of new attractions in buildings long familiar. Mr. Grigson rightly points to plate 104, where the vault-ribs of the Gloucester crossing are seen tip-toeing on the slenderest of arches thrown across the transept openings. Plates 50 and 60 (Norwich) and others are equally revealing. Professor Meyer's notes are a feat for a foreigner, even if they are not without mistakes. They are up to date, the best one-volume guide available to cathedral-goers. Mr. Hürlimann is highly illuminating to readers in this country. Whereas Professor Meyer just states about individual English buildings here and there (and that is interesting too): 'There is nothing comparable on the Continent,' or 'Such a vault has not even the remotest parallel abroad'; Mr. Hürlimann tries to analyse what strikes

him as peculiarly English in his general impression of English cathedrals: many styles in one building, parts cut off from each other, long naves and long chancels, ornamental sculpture of better quality than figure sculpture, and an atmosphere neither Catholic nor Protestant, that is without the mysteries of incense and glimmering candles, but with daily services, bells and chant, and with flowers on floor and altars.

Mr. Harvey is also aware of certain qualities which to him make an English cathedral English; he speaks in his Introduction of the remoteness, the height, the 'detached mental fervour,' the lack of charity of French cathedrals, and says of the English as a nation, that they are 'uneasy upon the heights,' firmly rooted in the earth, illogical, and always ready to muddle through. Hence the variety, disjointedness, unison of many styles, and also warmth, and homeliness of the English cathedral. Length and straightness as linear qualities are also mentioned.

Altogether Mr. Harvey's first pages are an excellent introduction to his subject for layman and student, Englishman and foreigner, alike. The historical chapters also are mature writing, well formulated and with much original thought. They are easily the best thing we have had so far from Mr. Harvey, and it is gratifying to see that while he handles writing for a large public so well, he also continues his contributions to scholarship: see his new article on the names of English parish church designers (*The Archæological Journal*, vol. 105). It is known that Mr. Harvey rather tends to over-estimate the interest roused by the name of a master mason. If we cannot endow a name with life by seeing the man as a character, or the representative of a style, what does his name help us? Thus, William of Sens and Villard de Honnecourt are names of value, but can it be of importance to hear that the choir bays of Southwark were 'possibly designed by Master Stephen' in the thirteenth century? In his *The English Cathedrals*, Mr. Harvey goes on mentioning more names than one may find necessary, but he speaks of them more soberly, he keeps them in not too unjust a proportion, and he contributes a good deal to strictly architectural history. Certain surprises remain—for instance that Wells should have been begun as early as c. 1175, that the Ely Octagon should depend on Persia, and that the last third of the fourteenth century should be 'the period of highest achievement in the whole history of English art.' But an author is entitled to his own views and his own taste, and we have much in this new book to be grateful for to Mr. Harvey. I would myself especially single out the excellent passage on the re-modelling of Gloucester (p. 61). Mr. Harvey rightly emphasizes here the importance to the understanding of the Perpendicular style of such aisleless buildings as the Royal Chapels. He continues: 'The Gloucester architect cloaked the structure internally with masonry grid, transforming the whole presbytery and choir into the semblance of an aisleless chapel. The aisles still existed behind the grilles, but were not included in the spatial scheme. In other words, the procedure at Gloucester was the converse of that at Bristol. In the earlier work the central area was extended to embrace the whole church within the outer walls; at Gloucester it was compressed, but in a translucent cage of stone and glass.'

There is no doubt, Mr. Harvey's is the best recent book on cathedrals. The illustrations, on the other hand, are distinctly disappointing, and it is hard to understand why Messrs. Batsford's, with their long experience of good half-tone printing, should have changed over to another technique. It is only necessary to look at such plates as 41 and 140 to see how much is lost in the gravy of photogravure.

Nikolaus Pevsner

A MINOR MASTER

PAUL BONATZ. *Leben und Bauen. Engelhornverlag Adolf Spemann, Stuttgart,* 1950.

Sometimes, while discussing the latest trends in architecture and trying to reinterpret its history, we meet one of the older masters of the craft who reminds us, by his personality and his work, of the simple human activity in which we are engaged. Paul Bonatz's autobiography conveys an experience of this kind. It is an old man's tale, serene and capricious, which unfolds a long and happy life of building and teaching in Germany and since 1943 in Turkey. Bonatz was born in 1877 at Solgne, Luxembourg; his father hailed from the north of Germany, his mother was a Luxembourgeoise; for the greater part of his life he belonged to Stuttgart, whose railway station he built during the first war and whose College of Technology still bears the imprint of his teaching.

As an architect he belongs to the generation formed by Theodor Fischer, his master and predecessor at the Stuttgart college; and in this, as in some other respects, one may call him a brother of Saarinen. If he lacks Saarinen's genius for decoration, he owns a simplicity Saarinen could not match. The comparison of the Helsinki and the Stuttgart railway stations is, I feel, telling in this respect. In his natural approach to building, Bonatz occupies, indeed, a position of his own. Rarely, during his long career, did he fall victim to one of the prevailing 'isms.' The Stummhaus in Düsseldorf is one example; but where he is quite himself, as in the Neckar barrages and the bridges for the Autobahn, he can bear comparison with the greatest masters. I don't know of anyone to-day who has achieved the same quiet grace and unpretending scale.

With all that, his architecture will hardly influence the present generation, certainly not in this country. As a teacher, however, he remains a living force. Teaching and building are, for him, two facets of the same stone. He does not seem to believe that an architect should only be a teacher, nor does he believe that an architect should be only a designer without, at the same time, being a pedagogue. The short introduction he wrote in 1930 for a collection of work done by his pupils contains so much that is essential and, I think, new even after twenty years, that publication in England would be desirable, where architectural education, as we all feel, is at the present moment very much struggling in the woods.

Bonatz's autobiography is a document of two phases of twentieth century German life and building, the time before 1914 and the inter-war years. As such, it deserves to be known to readers in this country as well as in his own.

Julius Posener

Shorter Notices

CANTERBURY. *By William Townsend. B. T. Batsford.* 8*s.* 6*d.*

'Canterbury,' says Mr. Townsend, 'is the very opposite of those one-period towns like Birmingham or Brighton that have grown up and taken on an homogeneous character in a single burst of prosperity or fashion.' In fact, Canterbury's past is rather like its cathedral—very long, and containing many changes of level together with some awkward corners where different periods meet. These are characteristics which do not help the writer who sets out to recount that past and describe its visible legacy to the present: none of the hobby-horses on which topographers of the new school canter so lightly over their chosen subjects could either stay the course or manage the steps. Mr. Townsend's own hobby-horse—if, indeed, he has one—has been left safely stalled in his umbrella stand. The settlement of the Belgae, the Roman Durovernum, medieval Canterbury, Canterbury of the weavers, the fatly slumbering Canterbury of Sidney Cooper, RA, modern Canterbury of Kodaks and cricket—each has its proper share of the eighty-odd pages in which, by a process of compression whose workings are never noticeable, Mr. Townsend finds room also to discuss the city's architecture, from the cathedral* downwards and outwards, and to drop useful hints on more general subjects, such as restoration and Tristramization.

It has been said that most painters write well; it is probably nearer the truth to say that most painters write better than most writers paint. Mr. Townsend, however, is a painter who writes better than most writers write. He has written a guide-book to take to Canterbury—and a book to read at home.

M.W.

* Parts of his chapters on the cathedral first appeared as an article in the REVIEW, April 1949.

Books Received

EUROPEAN ARCHITECTURE IN THE TWENTIETH CENTURY. By Arnold Whittick. Crosby Lockwood. 30s.

RURAL CRAFTS OF ENGLAND. By K. S. Woods. Harrap. 15s.

NORTHUMBERLAND. By Herbert L. Honeyman. Robert Hale. 15s.

ROADS—THE NEW WAY. By Harold Nockolds. British Road Federation. 2s.

EDWARD HOPPER. By Lloyd Goodrich. Penguin. 3s. 6d.

ARCHITECTURAL PHOTOGRAPHY. By Leslie Shand. Newnes. 30s.

ACOUSTICAL DESIGNING IN ARCHITECTURE. By Vern O. Knudsen and Cyril M. Harris. Wiley. $7.50. London: Chapman and Hall. 60s.

DECORATIVE ART 1950-51. THE STUDIO YEAR BOOK. Editors: Rathbone Holme and Kathleen Frost. The Studio. 25s.

MIDDLE KINGDOM ART IN ANCIENT EGYPT. By Cyril Aldred. Alec Tiranti Ltd. 6s.

LONDON'S UNDERWORLD. Edited by Peter Quennell, being selections from the works of Henry Mayhew. William Kimber, 18s.

THE PAINTERS OF FERRARA. By Benedict Nicolson. Paul Elek, 42s.

THE FACE OF SPAIN. By Gerald Brenan. Turnstile Press, 15s.

POTTERY IN THE ANCIENT WORLD. By Desmond Eyles. Doulton and Co. 7s. 6d.

BUYING AND SELLING A HOUSE. By M. B. Evans. Stevens and Sons. 6s. 6d.

HOW TO WRITE TECHNICAL BOOKS. By John Gloag. George Allen and Unwin. 12s. 6d.

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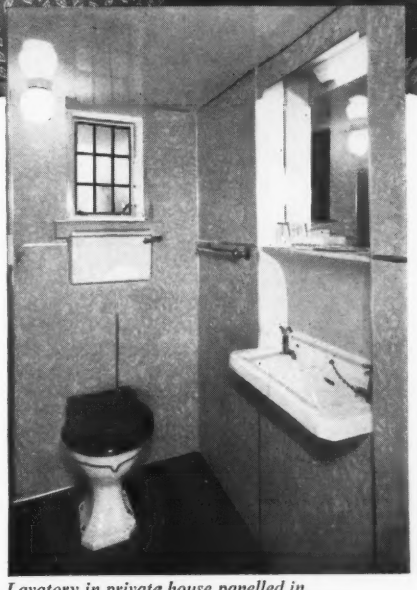

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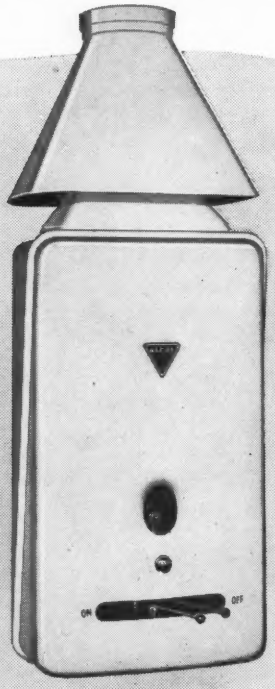

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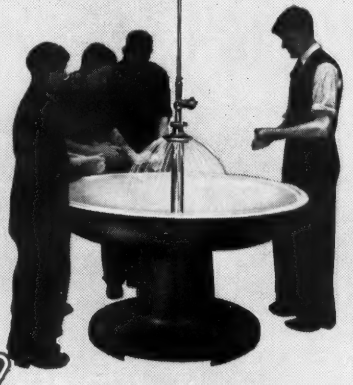

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ANTHOLOGY

Exhibition Preview

Feeling a bit lost, and lifting my feet like a cat, I entered the grounds of the British Empire Exhibition at Wembley a few days before their official opening. It was the wrong entrance, or at all events not the right one, which I could not find, and I feared to be turned back by the authorities, but they seemed a bit lost too, though they no longer lifted their feet. Useless for pussy to pick and choose in such a place; slab over one's ankles at the first step flowed the mud. A lady in the Victoria League had told me there was to be no mud; 'There was some, but we have dealt with it,' said she, and perhaps there is none at the proper entrance; the hundreds of shrouded turnstiles that I presently viewed from the inside were certainly clean enough. But the authorities seemed covered with mud; it disputed with grey paint the possession of their faces; they made no bones about mud at all, and were without exception courteous and cheerful. They were even leisurely; the idea that they were completing an entertainment which should be opened in less than a week had evidently been dismissed from their minds, and they went on living their lives. In this they showed their high imperial vision. Pray, did Clive settle the date when he would win Plassey, or Stanley and Livingstone decide exactly when and where they would shake hands? Certainly not. They were making history, not keeping to it, and Wembley does the same. Clocks may strike, suns rise and set, the moon herself accomplish an entire revolution, but the loftier enterprises of man have always ignored such promptings. What is time? And, after all (I thought), why should the Exhibition not be opened in a day or two. It is even open now.

I was bound for the Indian section, and received a good deal of sympathy and advice from the navvies I consulted. They agreed India was no ordinary journey, and far-away looks came into their eyes. 'It's a bit mucky that way. ... Best try through that large building, but don't bear too much to the left or you'll get mixed up in the stuff.' I was already glad to be inside a building, for the mud seethed with railway trains, and if I attempted open country, gardeners complained it was their new grass lawn. But the building was so large that it failed in the normal immunities of an interior; more railway trains ran down its stupendous galleries, and there was the extra terror of motions overhead that shaved one's scalp. Some of the machines were exhibits and stood still, but, just as at Madame Tussaud's, one could never be sure the quietest creature would not shoot out a claw suddenly. Getting more and more mixed up in the stuff, I dodged among plesiosauri and waded through brown paper and straw—until, as in a dream, I wriggled through a small hole into the open air and saw across more central mud a mass of white minarets in the later Mogul style.

E. M. FORSTER (*Abinger Harvest*). Edward Arnold & Co., 1936.

MARGINALIA

The Gowers Recommendations Rejected

The Government's announcement that it cannot accept the two main recommendations of the Gowers Committee on historic houses is a great disappointment. Those recommendations, it will be remembered, were that the owners and occupiers of certain houses should, upon conditions that included the opening of those houses to the public, get relief from taxation, and that Historic Buildings Councils (one for England and Wales and one for Scotland) should be set up as the central authorities for advising Government departments, planning authorities and owners on matters relating to historic buildings and their contents. The Government's objection to the granting of tax relief is based on the argument that it would amount to a subsidy to a special class of persons over which Parliament would have no direct control and would run counter to a general principle that a man's liability to tax should not be measured by his choice of commitments; the reasons for its rejection of the proposal to set up Historic Buildings Councils has not, at the time of going to press, been made clear.

THE ARCHITECTURAL REVIEW has given its support to the Gowers Committee's recommendations because they represent an effective and workable scheme. If the Government produce an equally effective scheme the REVIEW would be happy to support that. At present the Government's proposals are not fully known, and final judgment must await full details of the legislation which it proposes to introduce. Apart from certain changes in Estate Duty, designed to facilitate the preservation of houses with their contents intact, the chief measure proposed is an extension of the powers of the Minister of Works, to enable his department to assist in the preservation of private houses. Lord Pakenham's emphasis, in his statement in the House of Lords, on the smallness of the funds that would be available did not suggest that the Government have much sense of the urgency of the problem.

Industrial Art Bursaries Competition, 1950

The report on the Industrial Art Bursaries Competition held by the Royal Society of Arts in 1950, published recently, records that awards to the value of £1,705 were made to enable winning candidates to travel abroad to broaden their knowledge and experience, and an exhibition of winning and commended designs was held at the Society's House in March. Reports submitted by previous Bursary winners on their tours abroad were also on view.

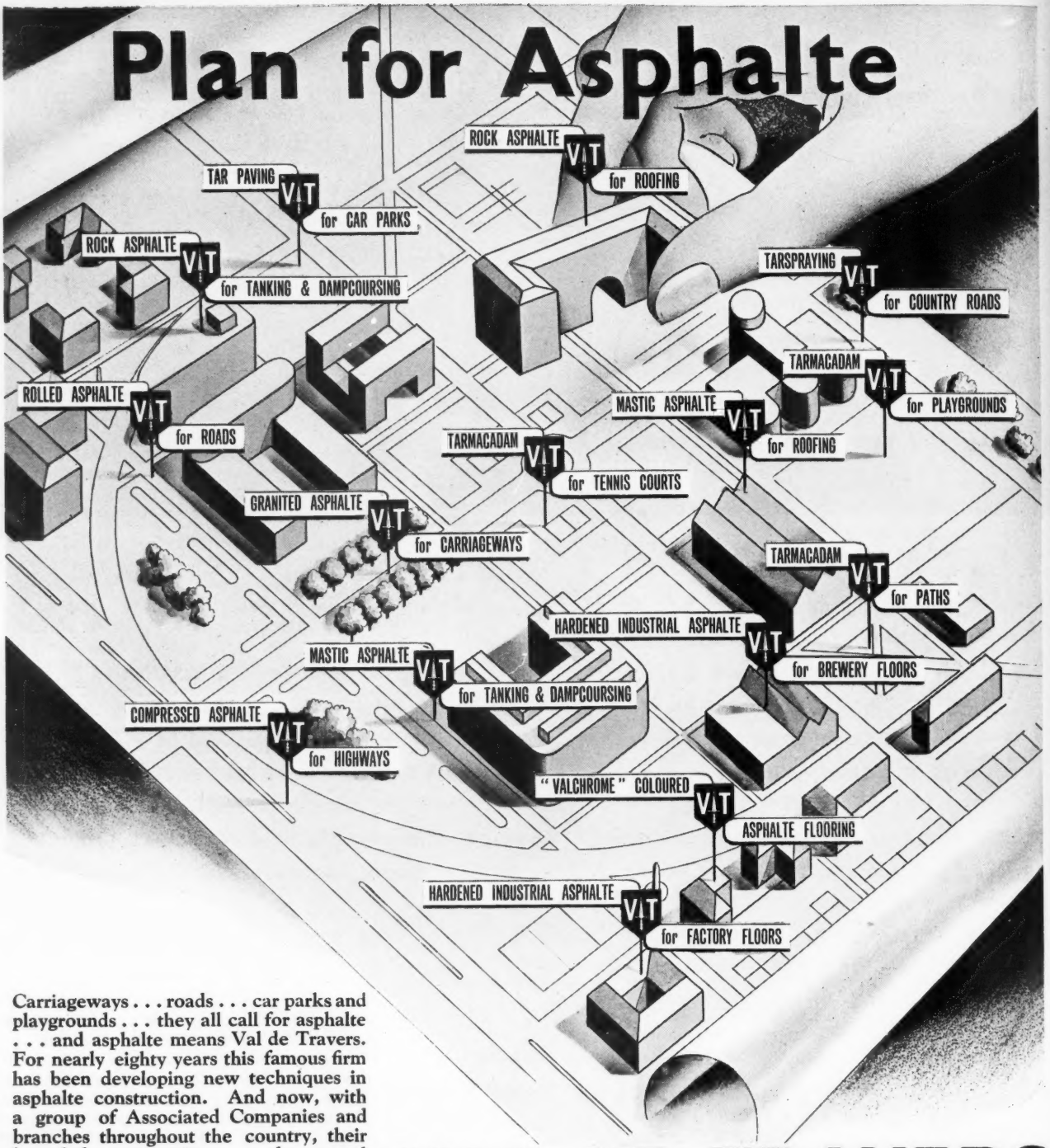
From 1924 to 1933 over £11,000 in prizes was distributed in annual competitions of this sort. As in the present competition, the greater part of the cost of the awards was subscribed by industry, many branches of which have regularly made generous contributions and shown continual interest in the Society's work.

Competitions in the present form, which aim to encourage art-school students to take up industrial design as a career, started in 1938; and a further sum of £5,970 has been awarded in the nine competitions since held. A competition, details of which can be obtained from the Society, is also being held in 1951.

The Stained Glass Problem

That anyone would seriously maintain contemporary English stained glass showed a high standard of design is unlikely. Yet, by one of the ironies of fate and the War Damage Act, at this most inauspicious moment there has been created a demand for stained glass which can scarcely have been equalled since the nineteenth century. During the war a very large number of churches that suffered no other direct damage from bombing had their stained glass windows shattered by blast. Some of these windows were of high æsthetic value; others, perhaps most, were artistically negligible; many, particularly in churches dating from the seventeenth and eighteenth centuries, occupied positions where white glass would have done much better. In all cases the incumbents and vestries responsible for the upkeep of the fabric are faced with a dilemma when the question of replacement under the War Damage Act arises: either they must put up new stained glass, which will pretty certainly be no better than what was destroyed and may very well be worse, or they can put up white glass, forgoing a large part of the funds which would be available for the replacements. What they cannot do, of course, is put up white glass and use the balance of the money for something else—such as repainting the interior.

One or two vestries have adopted the second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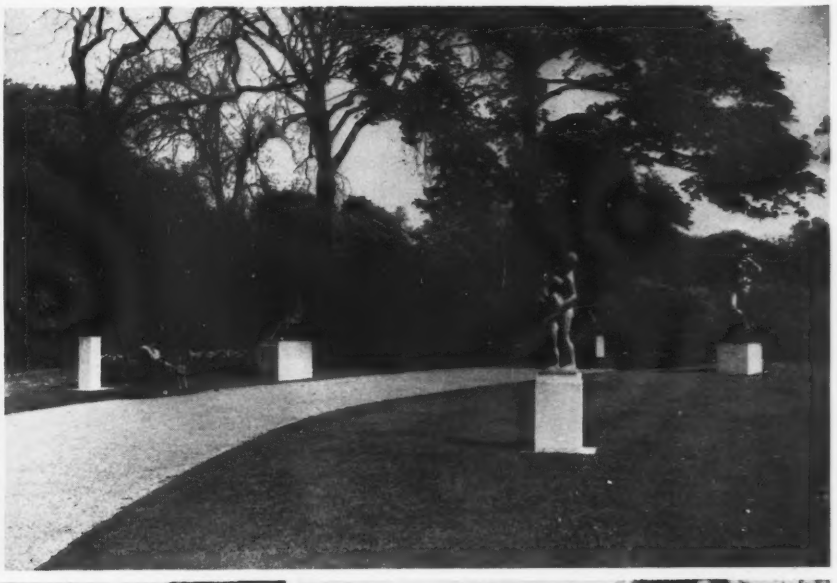


5, Death of the Last Centaur, *bronze* 1914, *by E. A. Bourdelle;* 6, *foreground,* Evensong, *terracotta* 1944, *by S. Charoux; right,* Standing Girl, *bronze* 1928-9, *by G. Henning; left,* Child on a Chair, *bronze* 1949, *by G. Manzù;* 7, Standing Figure, *bronze* 1950, *by H. Moore;* 8, Rhythm in Space, *stone* 1948-9, *by Max Bill. All are from the second international exhibition of sculpture which is being held in Battersea Park until September. See* EXHIBITIONS *on page* 62.

railings which so municipally clutter up the foreground? This is not the only instance in which the foreground is wrong; a flower-bed is not really the best of visual introductions to the 1884 realism of Meunier's *Docker*. More often the background is the trouble: bronze just can't compete with rhododendrons and the proper foil for a Reg Butler of the weight of the *Torso* shown is a solid wall, not foliage.

These complaints made, let it be said that there are many fine things in Battersea Park. The policy of limiting each artist to one work has made it possible to make the present exhibition more truly international than was the last, and one of its most welcome features is the inclusion of German sculptors not often seen in this country. Wilhelm Lehmbrick (1881-1919) is one of them; his bronze *Kneeling Girl* of 1911 is one of the most moving works present, revealing new subtleties from every angle of view. Georg Kolbe, who was four years Lehmbrick's senior but lived until 1945, is another, represented also by a bronze, a *Pieta* of 1930. A third is Ernst Barlach (1870-1938); but one feels that his *Woman in the Wind*, so Gothic in spirit, needs an architectural setting for full effect. From France, in addition to Bourdelle, there are Maillol, with a seated figure of 1901, Despiau, with a standing one of 1938, Giacometti, whose group of tiny men is so completely out of scale with its surroundings that it is possible to examine it without any reference to them, Rodin of course (but poorly represented), and several others. The most notable piece from Austria is the limestone *Human Cathedral* by Fritz Wotruba (whose show at the Hanover Gallery was noted last month), though it, too, needs sterner surroundings than a garden; Italy is represented by Manzù (*Child on Chair*) as well as Marini, and international abstraction by Max Bill's *Rhythm in Space*, 8 (surely on too lofty a pedestal?), Arp's Hybrid *Fruit called Pagoda*, and Pevsner's *Column of Victory capable of Development*. Among the contributing English sculptors, besides those already mentioned, there are Dobson, Hepworth, Jonzen, McWilliam, Meadows, Skeaping and Chadwick. An outsize Calder mobile near the east entrance lacks nearly everything which made his Lefevre show in the winter an entrancing experience.

Both Marini and Moore have had exhibitions to themselves in London—in Moore's case two (recent bronzes at the Leicester Galleries and a comprehensive show at the Tate). Marini, who works in Milan, is a newcomer to England, and a very notable one indeed; he has done nothing less than revivify the age-old motif of the equestrian statue, as could be appreciated not only at Battersea but also at the Hanover, while now the Tate has bought and is showing one of his works of this kind. Moore, on the other hand, is almost an old master now; what a master, no one should miss the opportunity of reminding himself at the Tate, where the exhibition organized by the Arts Council and selected and arranged by A. D. B. Sylvester remains open till July 27.

Sculpture has monopolized these notes this

month, but the first of the Arts Council 'anthology' exhibitions of British painting 1925-50 must not go quite unmentioned. The painters represented, all by at least three pictures, are Bacon, Burra, Clough, Colqhoun, Craxton, Freud, Hitchens, Hodgkins, David Jones, Wyndham Lewis, Lowry, MacBryde, Minton, Paul Nash, Nicholson, Pasmore, Piper, Ceri Richards, William Roberts, Matthew Smith, Stanley Spencer, Sutherland, Wadsworth and Christopher Wood. By the time this number of the REVIEW appears, this exhibition will have moved on to Manchester, to be succeeded at the New Burlington Galleries by Anthology 2, in which twenty-six more British painters of the last quarter-century will be included.

Next month the sculpture and painting on the South Bank will be discussed.

INTELLIGENCE

The first block of houses to be erected to the winning designs of THE BUILDER architectural competition for terrace houses to cost not more than £1,000 at prices ruling on January 1st last, are now under construction at Northampton.

William Sugg & Co. at their premises at 20, Chapter Street, London, S.W.1, have a permanent exhibition of lamps and standards which they have manufactured (see pages 51 to 55).

The Council of the RIBA are to hold on October 9 this year an informal reception, similar to the one held last year, for architects and students from the British Commonwealth and the USA. Architects who know the names and addresses of any visitors are asked to send details to the Secretary, RIBA, so that invitations may be sent.

CORRESPONDENCE

Architectural Education

To the Editors
THE ARCHITECTURAL REVIEW

DEAR SIRS,—The interim report published in the REVIEW dealing with the subject of Architectural Education* was read at a recent Architectural Student Conference held under the auspices of the National Union of South African Students, and provoked considerable comment.

Your interim report, though very extensive in many respects, is incomplete in one important respect—it makes no reference to the student and his activities. It would appear from your survey that Architectural Education may be 'applied' to a student in order to produce a well-balanced architect much as one might have 'applied' decorative orders to a facade in order to produce architecture. The one is as ridiculous as the other. We believe that in point of fact Architectural Education must begin with the student and end with him, and any consideration of Architectural Education without constant reference to the student's capabilities and activities is valueless.

Quite as important as the curriculum, lectures and practical design projects in educating the student is the work that the student does on his own initiative. Here, student organizations have an extremely important part to play.

To illustrate this latter, let me outline the form of student organizations in this country. At each of the four Schools of Architecture at Johannesburg, Pretoria, Durban and Cape Town there exists a Students' Architectural Society or similar organization, run by the students with the sole view of collaborating on aspects of architecture that are not dealt with in the academic course. At the University of the Witwatersrand the students, entirely on their own initiative, have produced some important exhibitions, sponsored lectures by notable people, stimulated architectural research, and in collaboration with the Students' Representative Council, have organized a visit to the country by Mr. Anthony Chitty for three months in 1949 to lecture at the University and assist in the studios. This personal contact with a prominent overseas architect proved to be a great stimulus, and it is hoped that other architects may be induced to visit the Universities in this country.

The value of such work, undertaken by students on their own initiative and carried out in collaboration, is inestimable, and promotes initiative and the ability to co-ordinate. In order to further such co-operation on a national scale, Faculty-Conferences have been organized to enable representatives of the various architectural student organizations to meet to discuss mutual problems and arrange projects to be undertaken in collaboration. One such collaborative project has been an exhibition of the work of students of all the architectural schools, which is kept circulating from school to school, each school, as it receives the exhibition, replacing its exhibits with new work so that the exhibition is being constantly renewed. As a result, students know the scope and extent of architectural education throughout the country.

These remarks will serve to show the extent of student activity in South Africa, and of the value we place in these activities. The system is, of course, far from perfect. Many students do not appreciate the value of co-operative student activity, and a crowded academic curriculum leaves far less time for such activities than we could wish for. Nevertheless we feel that we are making decisive steps towards our goal—a satisfactory synthesis of academic study based on a curriculum and co-operative student activities undertaken on the students' initiative. This, we feel, is the only system of Architectural Education that can produce architects with sufficient versatility, initiative and competence to deal with the problems of modern architecture.

Yours, etc.,
E. N. FINSEN,
Secretary, Council of Architectural Students, University of Witwatersrand.
Johannesburg.

* *The Training of Architects: Interim Survey.* ARCH. REV. June 1950.

Man-Made America

To the Editors,
THE ARCHITECTURAL REVIEW

DEAR SIRS,—I had meant to write you earlier in regard to your December issue 'Man-Made America.' I have been concerned with the visual aspects of urban development in this country for a number of years, both as Chief of the Master Plan Division in the city planning office in San Francisco and as a member of the faculty of the Department of City and Regional Planning at the University of California, Berkeley.

I am teaching a new course in urban æsthetics in which the attempt is made to develop an organized approach to the study of the æsthetic characteristics of our cities. I am profoundly convinced of the very real importance to the city dweller of the visual aspects of his physical environment. I am further convinced that we must go beyond the 'city beautiful' approach which dominated urban æsthetics and city planning in this country for a number of years. I believe, that is, that we must utilize the knowledge gained during the last half century in contemporary art and architecture if we are to properly undertake our task of making our cities better places in which to live. However, the over-simplified approach to city planning often assumed by the architect, in which the city plan is conceived of as a huge site plan which would require drastic and immediate changes to the present city, does not accord with the American concept of city planning as a continuing, long range, advisory process. The great richness and complexity of urban development and its great extensiveness in space and time in comparison to architectural work must be recognized by those who wish to improve it.

I have found the articles on 'townscape' in THE ARCHITECTURAL REVIEW during the past four years to be interesting and valuable to me in my work and have used them as reference material for the students in my class. The recent issue on 'Man-Made America' was of particular interest and was required reading for the students this semester.

I believe, however, that I must protest vehemently the fact that no article was included from a practising American city planner. It should be apparent that real progress in the improvement of the æsthetic, as well as the functional aspects of American cities cannot be obtained without the continuing activity of the official local planning agencies in the United States. Many American city planners are seriously concerned with the types of problems raised by THE ARCHITECTURAL REVIEW, and I believe they will be increasingly so concerned in the future. Progress in relieving the ugliness of our cities will depend upon co-operation between city planners working within the framework of American local government and interested architects, landscape architects, and other professionals working on the outside. I believe, therefore, that your recent issue covered the subject of man-made America incompletely in the respect that the city planners' point of view was not really represented.

Yours, etc.,
SYDNEY H. WILLIAMS,
Visiting Associate Professor of City Planning.
California.

TRADE & INDUSTRY

A New Gas Cooker

Domestic Gas Cookers have been redesigned and restyled to such an extent in the last fifteen years that one would have thought that all the good ideas had been used up by now. And along come General Gas Appliances, a subsidiary company of Allied Ironfounders, with a new model designed for them by Raymond Loewy. The 'Raymond' gas cooker, as it is called, abounds with more new ideas, new gadgets and more fully exploited old ones than any we have seen so far. Nevertheless, in outward appearance it still looks like a cooker; in fact it is almost unassuming in its neat, tidy, well-bred lines. It certainly steers well clear of the many American design cliches which have been filtering over here via a few manufacturers since the war.

One of the most interesting technical features is a gas tap that is almost electrical in action. Each burner ignites automatically by means, in fact, of a small electric battery, when a master burner tap is pressed. Moreover, one cannot turn on the gas without first pressing the dial-type tap in, a valuable safety device. Then there is an outsize grill, which can also be used

[continued on page 66

A flat roof is as watertight as its joints.

The problem of making watertight expansion joints in flat concrete roofs can be solved by the use of Expandite rubber waterstops.

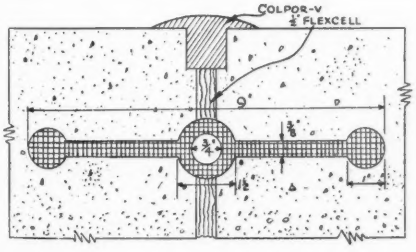
These waterstops were developed in the first place for sealing joints in hydraulic structures and are widely used by hydraulic engineers.

Three different sections are available, and, as shown in the illustrations below, the complete joint consists of the waterstop, Flexcell cane fibre joint filler, and a surface seal of one of the Expandite rubber-bitumen sealing compounds.

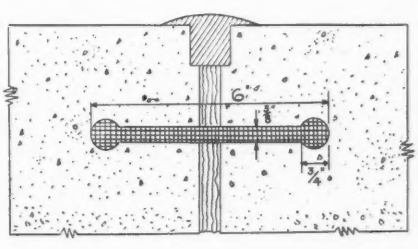
This is but one example of the general problem of sealing joints where there is movement. Government, Consulting and Municipal Engineers are constantly sending us drawings and asking for our suggestions on the treatment of joints in all types of structures. Can our Technical Department be of assistance to you?

Sealing 'joints which move' is our speciality.

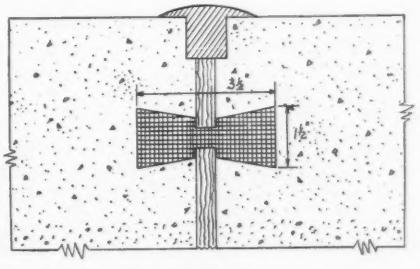
TYPE A TO ACCOMMODATE EXTREME MOVEMENT IN TENSION OR SHEAR



TYPE B FOR JOINTS WHERE RELATIVELY LESS MOVEMENT IS ANTICIPATED



TYPE C A MORE ROBUST SECTION FOR JOINTS WITH COMPARATIVELY SMALL MOVEMENT



EXPANDITE LIMITED

CUNARD ROAD,
LONDON, N.W.10
ELGAR 5151

continued from page 64]

9 *The new* Raymond *gas cooker. See note on page* 64.

in the oven. The grill chamber is totally enclosed and can be used as a plate-warmer. There is also a plate rack above, which can be folded neatly back behind the splash plate at the back of the cooker.

One of the soundest points in the design is the way all the parts that may collect dirt and grease can be removed for cleaning. The burners, the grill chamber, and all the flat surfaces in the oven can be removed quite simply and due to their vitreous enamel finish need no more than a wash in soapy water.

General Gas Appliances Ltd., Audenshaw, Manchester.

Atom Bomb Shelters

In a recent issue of *Building Topics*, a periodical published by Tretol Ltd., the manufacturers of specialized paints and building products, a contributor outlines some of the factors which distinguish the design of shelters from atom bomb attack as against that by high explosive bombs.

The first point to be noted is that in the two attacks during the last war, the bomb was exploded in the air. Thus buildings immediately beneath the point of detonation suffered from a downward heat and shock wave. Any structure not designed to take a heavy vertical load would naturally suffer more than for instance a bridge. In other respects, the effect of blast would be comparable to that of H.E., though much greater over a wider area.

Heat flash, due to the intensity of the heat generated on detonation, though of short duration, would ignite any combustible material, again over a considerable area. The new element is that of radio activity, due to the effect of gamma rays and of neutron rays. These render radio-active many of the materials that they penetrate. The first are far the more serious due to their great power of penetration.

Blast and heat flash can be met by greater structural strength compared with the last war shelters, preferably by building them underground. Gamma rays can only be excluded by using a thin screen of lead or by providing sufficient material—say five or six feet of earth over a concrete roof, to reduce their intensity as they penetrate. Thus the underground shelter avoids the need for this special protection other than in the roof.

Tretol Ltd., North End Road, London, N.W.11.

Wooden Casement Window Standards

The EJMA, in conjunction with the British Standards Institution, have recently drawn up a revised specification (BS 644 Pt. 1) for the construction of wooden casement windows to replace that issued in 1945. The object is to improve the general durability of such windows; in particular the profiles of the sections have been modified to give greater strength, necessitating only a small increase in timber content.

The range of types and sizes have been modified and now covers windows with horizontal and vertical glazing bars, with horizontal or 'lay bars' only, or without glazing bars. Casement doors and frames have been omitted since these are included in BS 459 Pt. 1 and BS 1567, though the latter standard will shortly be amended so that door frames with winglights will correspond to the new design for casement windows.

Details are also included of angle mullions, which will enable a range of bay windows to be built up with standard window units. In co-

[continued on page 68

"THAT'S OUR NEW BRANCH – ALL THE PARTITIONS, FITTINGS AND FURNITURE WILL BE STEEL – BY Sankey-Sheldon – OF COURSE"
HIGH PRIORITY FOR EXPORT
NICOLAS BENTLEY
Sankey-Sheldon Limited, 46 Cannon St., London, E.C.4

Kendal Milne & Co., Manchester — Children's Department

DESIGNERS and craftsmen work in close co-operation to create a store layout which fulfils each special requirement of selling and display.

George Parnall's approach to any scheme involves the closest collaboration with the client and his architect.

Messrs. Kendal Milne & Company's store was built in 1939 to a design of Mr. J. S. Beaumont, F.R.I.B.A. and was partially equipped with new interior fittings by George Parnall & Co. Ltd. Since the war a number of new departments have been completed which continues to reflect the work of fine craftsmanship.

Design and Craftsmanship by

GEORGE PARNALL

GEORGE PARNALL & CO. LTD. 4 BEDFORD SQUARE LONDON, W.C.1

continued from page 66]
operation with the hinge manufacturers, cranked butt hinges and 'easy clean' hinges have been introduced, which should prove more satisfactory than those in the 1945 specification.

English Joinery Manufacturers' Association, London, W.1.

Floor Finishes for Industrial Buildings is the title of the latest (No. 11) of the National Building Studies published by HMSO for the Building Research Station and written by G. E. Bessey. The report is specifically confined to floor finishes for factories, warehouses, laboratories, railway platforms and the like, and does not deal with hotels, offices and shops. The reason for this is that the subject of floor finishes gives rise to such a diversity of problems that they cannot be dealt with comprehensively in a small document of this kind.

First the author deals with the various industrial conditions that arise under the headings of durability, comfort, safety and appearance. He then considers the various floor finishes available and then goes on to consider the selections of floor finishes for particular purposes, including, for example, heavy engineering, dairies, breweries and laboratories. He ends with some notes on flooring repairs and two appendices on the laying of heavy duty concrete or granolithic floor finishes and on surface hardening of concrete floors.

Electrification, published by B. French Ltd., is a short account of the development of that well-known firm of electrical engineers and contractors, together with an illustrated commentary on many of the large contracts, including the Brabazon Assembly Hall at Filton, on which they have been engaged.

The New House of Commons reviews the work carried out by Frederick Sage & Company, Ltd., on the wood carving which they supplied for the new Chamber. A most elaborate and beautifully produced document for these austere days.

Tubular Furniture. In this booklet, Cox & Co. (Watford) Ltd., the manufacturers who supplied the seating for the auditorium in the Royal Festival Hall, catalogue their complete range of tubular furniture.

Corrections

In the advertisement of Messrs. Faulkner Greene and Company in the June issue the names of the architect and main contractors of the Bandstand Beer Garden were omitted. They were Bernard Engle, FRIBA, FIAA, and Messrs. Dowsett Engineering Construction Limited. In their reference to the Royal Festival Hall the names of R. H. Matthew, ARIBA, Architect to the LCC, and the main contractors, Messrs. Holland, Hannen and Cubitts, were inadvertently omitted.

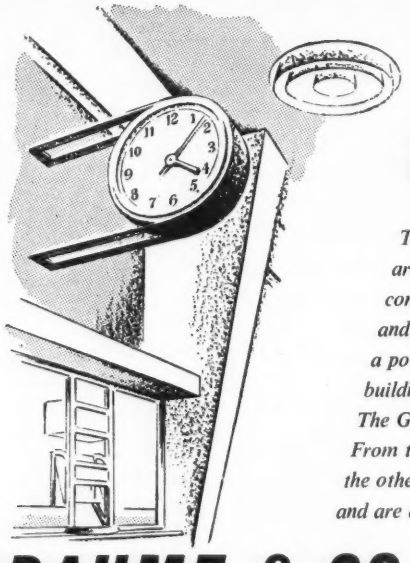
CONTRACTORS etc

Primary School at Poplar. *Consulting engineers:* Messrs. Clarke, Nicholls & Marcel. *Main contractors:* Tersons Ltd. *Sub-contractors: Roofing:* William Briggs & Sons. *Sanitary fittings:* Stitsons Sanitary Fittings. *Copper:* Frederick Braby & Co. *Tiling:* Carter & Co. *Sprayed ceilings:* Meta Mica Ltd. *Accotile floors:* Armstrong Cork Co. *Ceilings:* Sundeala Board Co. *Venetian blinds:* Tidmarsh & Sons. *Doors:* Gliksten Doors Ltd. *Garden layout:* Grasphalte Ltd. *Windows:* Williams & Williams Ltd. *Handrails:* Clark, Hunt & Co. *Joinery and fittings:* Rippers Ltd. *Fencing:* Bayliss, Jones & Bayliss Ltd. *W.C. partitions:* Mosaic & Terrazzo Precast Co. *Roofs:* Stramit Boards Ltd. *Fibrous plaster:* Dejongs. *Floors:* Granwood Flooring Co. *Structural steel:* Hills (West Bromwich) Ltd. *Ironmongery:* Rennis Ltd.

House at Kingston-on-Thames. *General contractors:* H. Firth & Co. *Sub-contractors: Doors, inlaid dining-table top, flooring:* Veneercraft Ltd. *Electric tubular heaters and thermostats:* Wardle Engineering Co. *Sanitary fittings:* Shanks & Co.; Ideal Boilers & Radiators Ltd. *Metal windows:* Williams & Williams Ltd. *Door furniture:* Dryad Metal Works. *Sunblinds and Venetian blinds:* J. Avery & Co. *Fabrics, carpets and rugs, upholstery, bedding, bedcovers, window seat, light fittings:* Heal & Son. *Furniture, light fittings, fabrics:* H. G. Dunn Ltd. *Special printed fabrics:* Edinburgh Weavers. *Curtains (making only):* Bentalls Ltd. *All electrical installations, special radiogram cabinet and television set, stair railings, living-room shelving, light fittings, cupboard knobs, metal trim, hat and coat rack:* Alfred Imhof Ltd. *Cupboards, brass legs to dining table, special bed ends:* Whitbys Ltd. *Chairs:* Ernest Race Ltd. *Light fittings:* Troughton & Young Ltd. *Collapsible screen in playroom:* Westland Engineers Ltd. *Indoor plants:* Constance Spry; Hillier & Son.

Primary School at Ormesby, N. Yorkshire. *General contractors:* Messrs. Norman Stonehouse. *Sub-contractors: Structural steel:* Octavius Atkinson & Sons. *Facing bricks:* Crossley & Sons. *Roofing felt:* The Neuchatel Asphalte Co. *Patent flooring:* Granwood Flooring Co. *Central heating:* Raines (H. & V.) Ltd. *Gas fixtures:* Samuel Gratrix Ltd. *Boilers:* Ideal Boilers & Radiators Ltd. *Electric wiring:* Johnson & Throp Ltd. *Electric light fixtures:* Troughton & Young (Lighting) Ltd. *Sanitary fittings:* Alfred Goslett & Co. *Door furniture:* Lockerbie & Wilkinson Ltd. *Casements and window furniture:* Vickers-Goodwin Ltd. *Textiles:* Heal & Son. *Cloakroom*

[continued on page 70



SOUTH BANK TIME

To ensure accurate synchronization, all clocks at the South Bank exhibition are part of the same GIBSON MASTER CLOCK SYSTEM. The Master Clock controls the 133 slave clocks and Time Recorders in different parts of the exhibition, and batteries, charged from the mains, keep the system running in the event of a power cut. The slave clocks are designed to harmonize with the buildings in which they are installed.

The GIBSON system is used in many large buildings, office blocks and schools. From the point of view of economy the installation should be planned at the same time as the other services. BAUME & CO. LTD. are specialists in electrical time-indication and are always willing to make clocks to any design.

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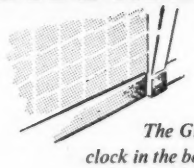

The Gibson slave clock in the booking hall of the Festival underground station at Waterloo

BAUME WATCHES

Longines WATCHES

HEUER TIMERS

Gibson CLOCKS

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In times of shortage and difficulty it is essential for buyers to be able to rely on their suppliers. For this reason 'Twisteel' were selected by contractors to supply fabric reinforcement to the South Bank site and 25,000 square yards of Wireweld were used.

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LONDON: 43 UPPER GROSVENOR STREET, W.1. *Tel: GROsvenor* 1216. MANCHESTER: 7 OXFORD ROAD, MANCHESTER, 1. *Tel: Ardwick* 1691
BIRMINGHAM: ALMA STREET, SMETHWICK, 40. *Tel: Smethwick* 1991.
GLASGOW: 146 ARGYLE STREET, GLASGOW, C.2. *Tel: Central* 4551.

continued from page 68]

fittings: The Roachwood Co. Ltd. *Clocks:* Smiths English Clocks Ltd.

Welfare Centre at East Ham. *General contractors:* Taylor Woodrow Construction Ltd. *Sub-contractors: Asphalte:* The Rock Asphalt Co. *Bricks, 'High Brooms' sand-faced handmade:* supplied through Wiggins Sankey Ltd. *Reconstructed stone:* Ferro-Concrete & Stone Ltd. *Partitions:* London Brick Co. *Aluminium windows:* Williams & Williams Ltd. *Suppliers of aluminium:* Northern Aluminium Co. *Woodblock and strip flooring:* The National Flooring Co. *Gas fixtures:* William Sugg & Co. *Gasfitting:* North Thames Gas Board. *Calorifiers:* Hartley & Sugden Ltd. *Heating and air conditioning:* Matthew Hall & Co. *Electric wiring:* Newman & Anderson Ltd. *Electric light fixtures:* Troughton & Young; Merchant Adventurers Ltd. *Plumbing:* Stitson White & Co. *Sanitary fittings:* John Bolding & Son. *Door furniture:* Rennis Ltd. *Back counter fittings:* Pollards Ltd. *Bells:* General Electric Co. *Telephones:* Siemens Bros. & Co. *Entrance gates:* Scaffolding (Great Britain) Ltd. *Rolling shutters:* Arthur L. Gibson. *Venetian blinds:* J. Avery & Co. *Plaster:* Plaster Specialists Ltd.; *Pyrok* by Scuton Ltd. *Flush doors:* Trudors Ltd. *Terrazzo:* Diespeker & Co. *Tiling:* Carter & Co. (London) Ltd. *Textiles:* I. D. Moggach Ltd.; *suppliers of fabric:* Donald Bros. *Wallpapers:* Arthur Sanderson & Sons. *Mantels:* Bratt Colbran Ltd. *Furniture:* Permatops Ltd. (*tables*); Apex Steel Furniture Co. Ltd. (*chairs*). *Turfing and soiling:* F. M. Reffell Ltd. *Kitchen fittings:* Benham & Sons. *Bar fittings:* Electromatic Bar Installations Ltd. *Paint and distemper:* W. & J. Leigh Ltd.; Imperial Chemical Industries Ltd. (*cellulose*). *Painters:* Decorative Specialists Ltd. *Cold rooms:* J. & E. Hall Ltd. *Lifts:* Marryat & Scott Ltd. *Clocks:* Gent & Co. *Sound equipment:* General Electric Co. *Steel lockers:* James Randall & Co. *Roof lights and glass concrete construction:* Lenscrete Ltd. *Acousti-Celotex tiling:* Horace W. Cullum Ltd. *Weighing machine:* W. & T. Avery Ltd. *Ticket issue machines:* Automaticket Ltd. *Hi-rib ceilings:* The Trussed Concrete Steel Co. *Canvas floor covering:* John Smith (London) Ltd. *Drying cabinet:* Thermo-control Insulations Ltd. *Vacuum plant:* The British Vacuum Cleaning & Engineering Co. *Tarmac:* Improved Macadams Ltd. *Wringers:* Acme Wringers Ltd. *Washing machines:* Thor Appliances Ltd. *Fencing:* Peerless Fence & Products Ltd. *Masonry:* Art Marble Stone & Mosaic Ltd. *Granolithic flooring:* The Johnson Flooring Co. *Drainage:* G. N. Haden & Sons. *Conduit boxes:* Linden Engineering. *Curtain track:* Thomas French Ltd. *Gas fire:* Radiation Ltd.

Cinema in Dean Street, London. *General contractors:* Robertson & Cameron (Building Contractors) Ltd. *Sub-contractors: Electrical:* Leaf & Carver Ltd. *Heating and ventilation:* Hope's Heating & Engineering Ltd. *Fibrous plaster work:* Thomas & Wilson Ltd. *Automatic sprinklers:* The Automatic Sprinkler Co. *Cinema furnishings, carpets and curtains:* The Kinematograph Equipment Co. *Special fittings:* H. N. Barnes Ltd. *Foyer furniture:* Ernest Race Ltd.

Flats in Killick Street, Finsbury. *General contractors:* Y. J. Lovell & Son. *Sub-contractors: Foundations, reinforced concrete:* Caxton Floors Ltd. *Dampcourses:* The Ruberoid Co. *Asphalte:* Pilkington Asphalte Co. *Concrete blocks, partitions:* Broad & Co. *Facing bricks:* Uxbridge Flint Brick Co. *Precast concrete:* Emerson & Norris Ltd. *Glass:* Aygee Ltd. *Patent flooring:* Armstrong Cork Co. *Waterproofing materials:* Quickset Water Sealers Ltd. *Central heating:* Carrier-Ross Engineering Co. *Gas fixtures:* North Thames Gas Board. *Boilers:* Ideal Boilers & Radiators Ltd. *Electric wiring:* Bective Electrical Co. *Electric heating:* Electroway Electric Fires Ltd. *Plumbing:* G. N. Haden & Sons. *Sanitary fittings:* John Bolding & Sons. *Door furniture:* James Gibbons Ltd. *Casements, window furniture:* Crittall Manufacturing Co. *Metalwork:* Clark, Hunt & Co. *Joinery:* Peerless Built-in Furniture Ltd. *Mantels, terrazzo fire surrounds:* Hall & Co. *Lifts:* Bennie Lifts Ltd. *Signs:* The Lettering Centre.

The Cover

The colour reproduction on the cover was made available through the courtesy of Messrs. Carter and Company.

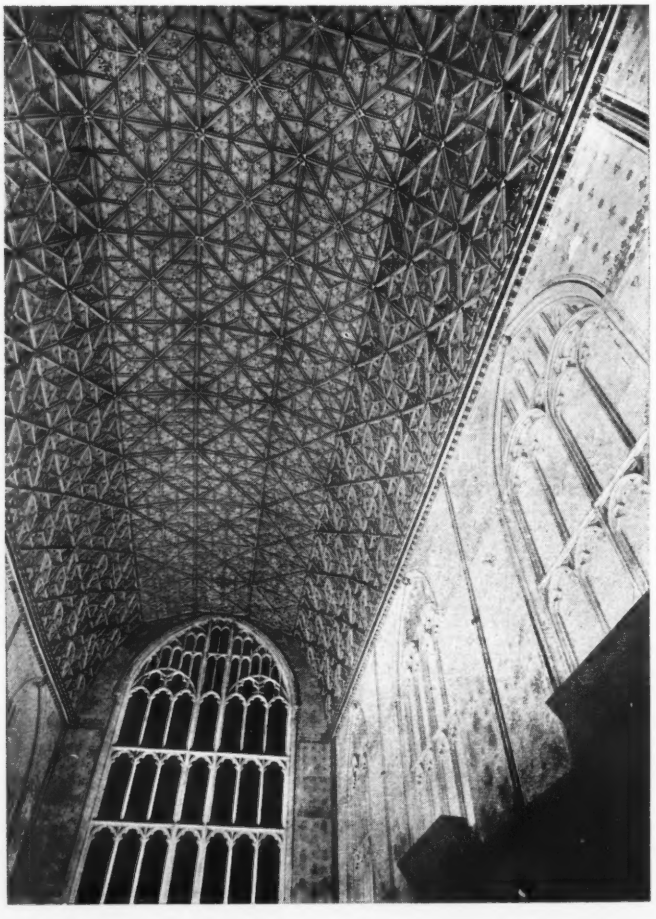
ACKNOWLEDGMENTS

Acknowledgments for illustrations in this issue are due as follows: Cover, Gordon Cullen; colour photo, Spectrocolor; Frontispiece, Bernard Rudofsky. PRIMARY SCHOOL AT LANSBURY, POPLAR, pages 7 to 15, John Maltby, except 1, 5, 6, McCallum, Arphot; POST-WAR HOUSING ESTATES, pages 16 to 26, British Official Photographs, Crown Copyright Reserved, except 5, page 18 b, Millar and Harris, 6, 11, 12, 22, 23, Tayler and Green, 13, 14, Thos. F. Holte, 16, Westwood and Johnson, 19, Wainwright; page 25, page 26 below, Aerofilms Ltd.; THE THIRD ROME, pages 30 to 37, Bernard Rudofsky; WREN'S DRURY LANE, pages 43 to 46, drawings by Richard Leacroft: the Wren section, page 44, is based on a Wren original and reproduced with the consent of the Librarian of All Souls College; CURRENT ARCHITECTURE, pages 47 to 50, 1, Stewart Bale, 2, 3, Sydney Newbery, 4, 5, John Maltby, 6, Millar and Harris; MISCELLANY, pages 51 to 60, LAMP-POST SURVEY, drawings and photographs by Peter Varnon, except 30, 31, G.E.C., 33, Felix Fonteyn, 34, Metropolitan-Vickers, 35, Fox Photos, 36, Lang, Arphot, 37, Marcus Whiffen; INDOOR PLANT, drawing by Gordon Cullen; REGIONAL SHOPPING CENTRES, Harry H. Baskerville, Jr.; THE SENATE HOUSE CLEANED, page 58, Christopher Rhys Evans, page 59, Marcus Whiffen; TRIM, Galwey, Arphot; MARGINALIA, pages 67 to 70, 4, Arts Council, 5, 6, 7, 8, Marcus Whiffen.

POST-WAR HOUSING ESTATES, pp. 17 and 18, a, Birkerhead: Herbert J. Rowse; b, Ipswich: J. B. Storey; c, Northampton: J. L. Womersley; d, Westbury; e, Hollingbourne: A. L. Farman; f, Blackburn: The Grenfell Baines Group; g, Shardlow: Thorpe and Partners; h, Kings Langley: Yorke, Rosenberg and Mardall; i, Newport: Johnson Blackett; j, Coventry: D. E. E. Gibson; k, Leeds: R. A. H. Livett.

Appointments

ELECTRIC LIGHT FITTINGS. First-class designer wanted by firm of standing. The appointment offers exceptional opportunities. All applications will be treated in strictest confidence. Box No. 2653.



CANTERBURY CATHEDRAL
CHAPTER HOUSE

The ROOF, of IRISH BOG OAK, was built in 1405-6 by PRIOR CHILLENDEN. It has waggon-vaulting, with gilded ribs, and is 90 ft. long, 36 ft. wide and 65 ft. high.

To-day it is lit by 20 — 500 watt indirect lighting fittings concealed behind the heating panels seen in the photograph.

The fittings are mounted in 4 groups of 3 and 4 groups of 2, 15 ft. above floor level, with switching arranged to give 3 intensities of light.

Installation by:

Drake and Gorham (Contractors) Limited

36 GROSVENOR GARDENS, LONDON, S.W.1

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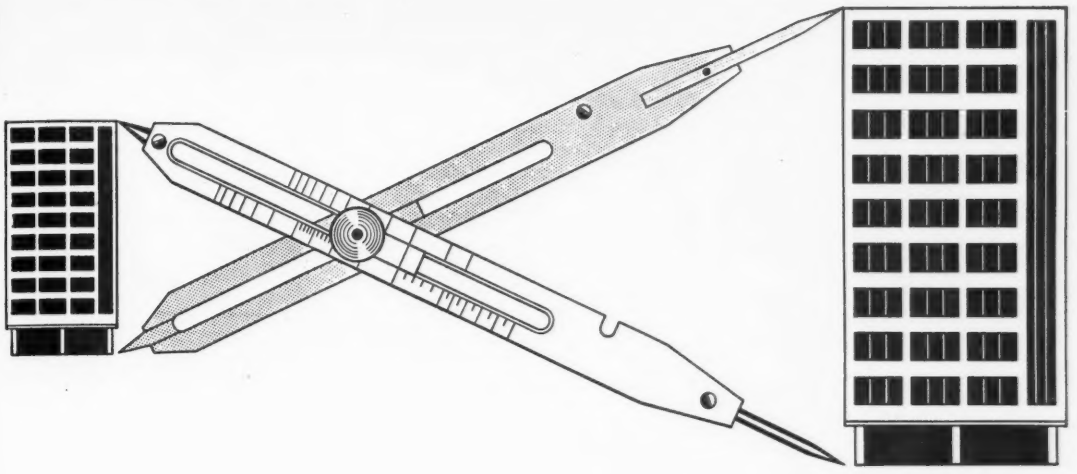

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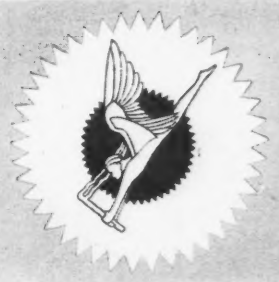

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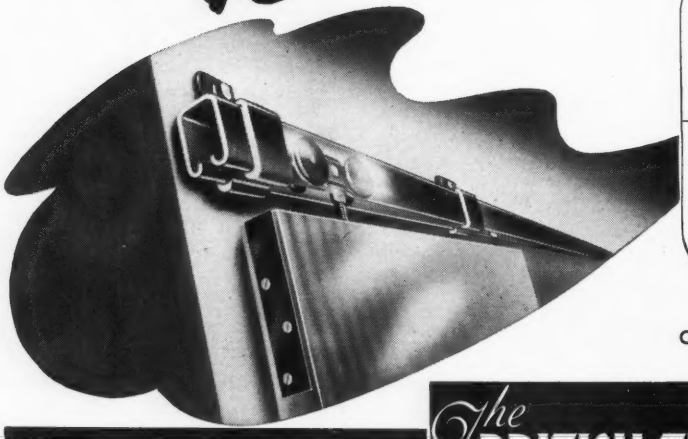

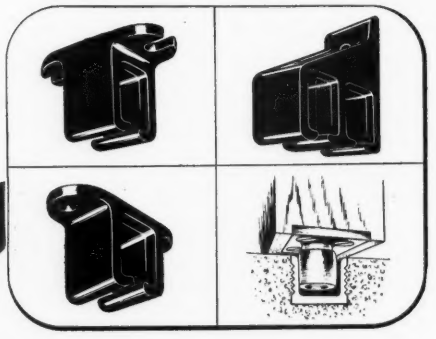

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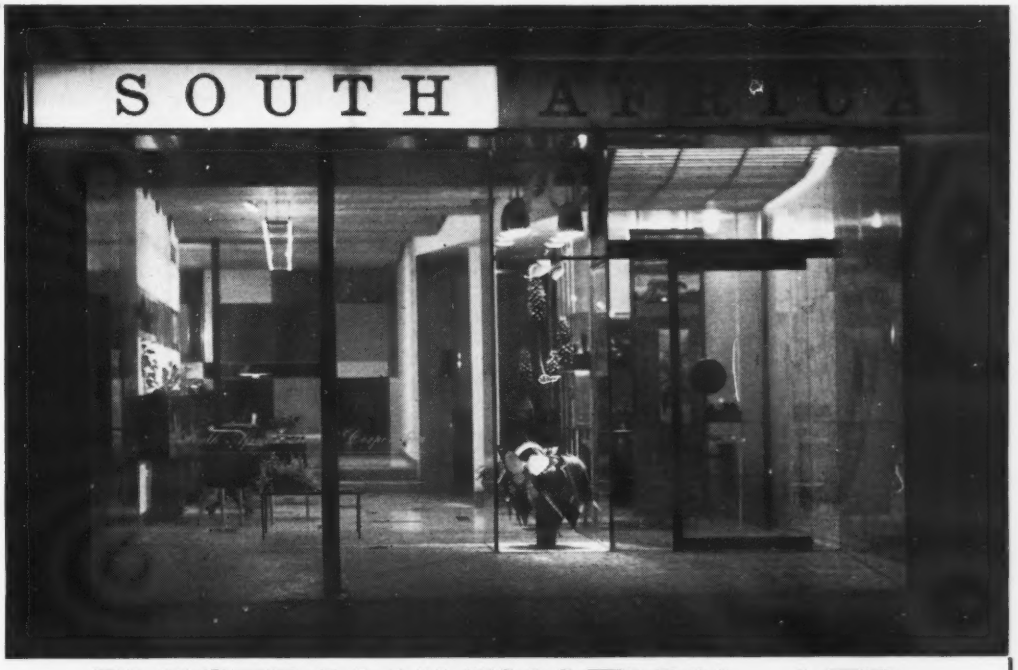

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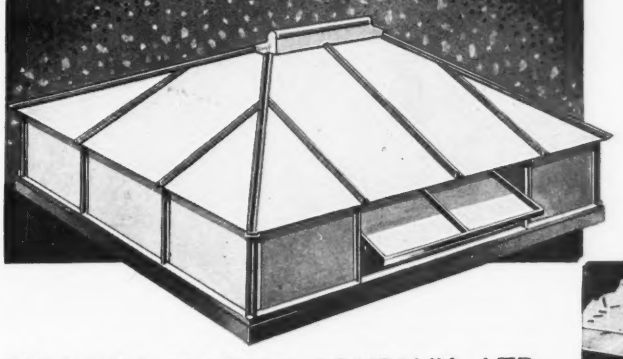

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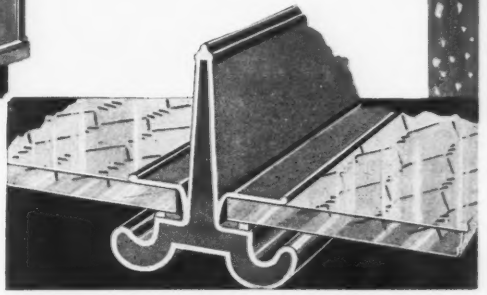

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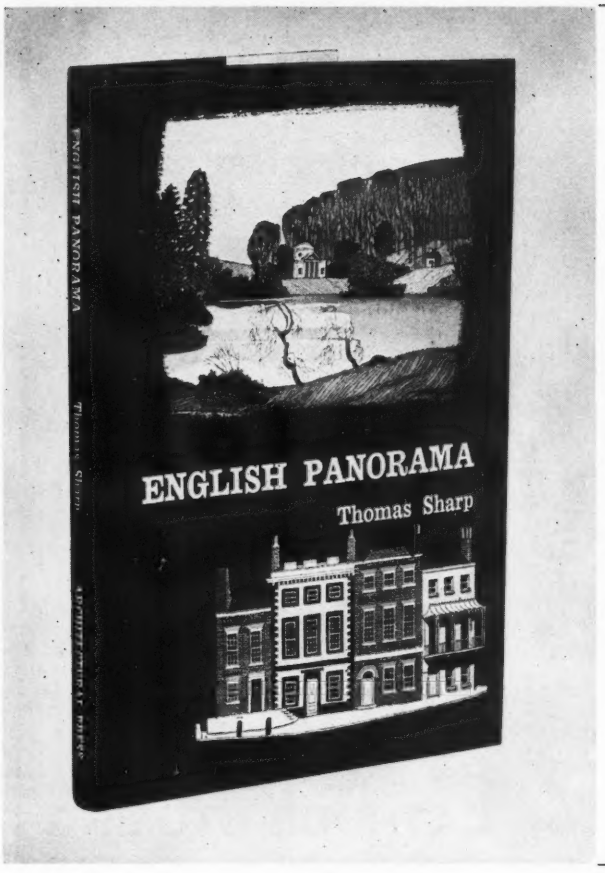

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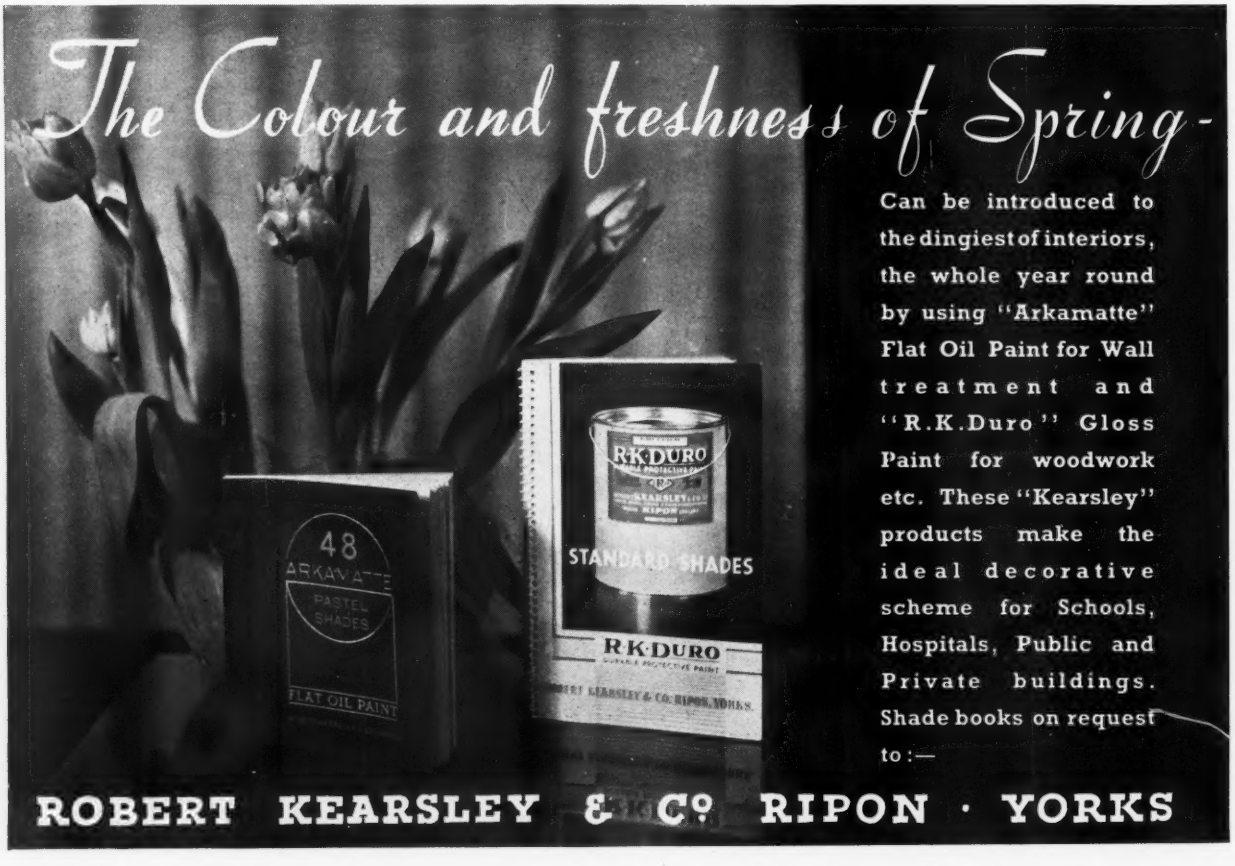
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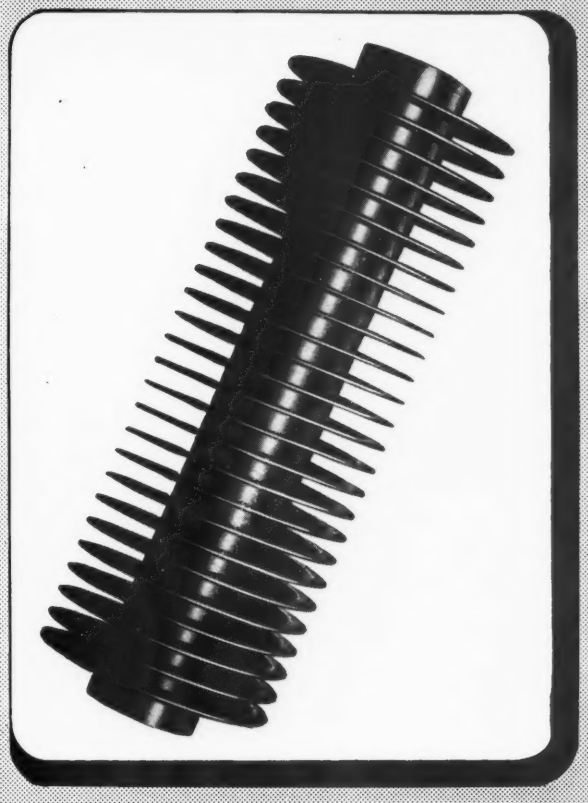

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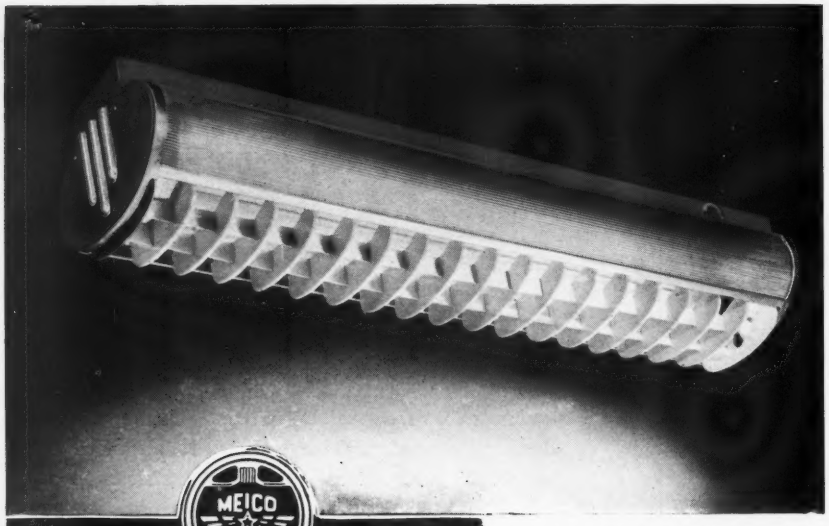

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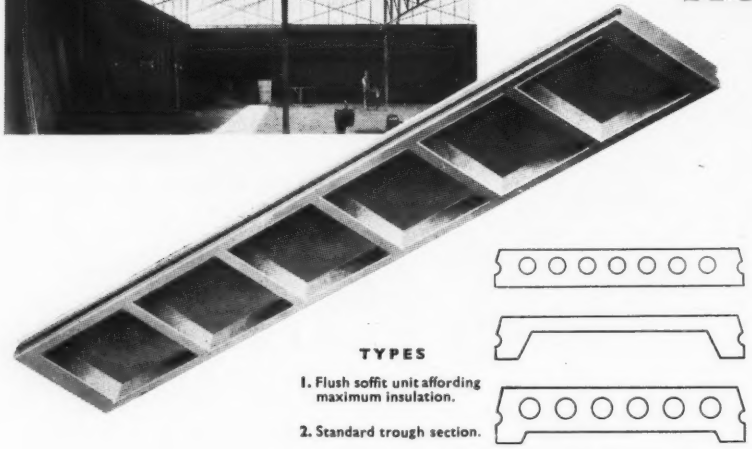

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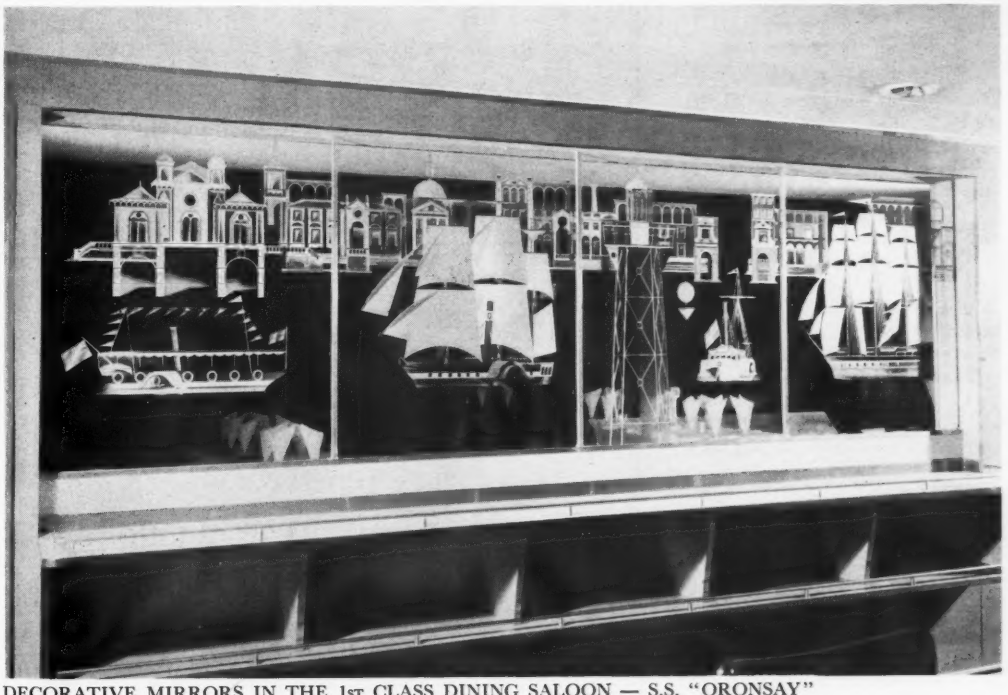

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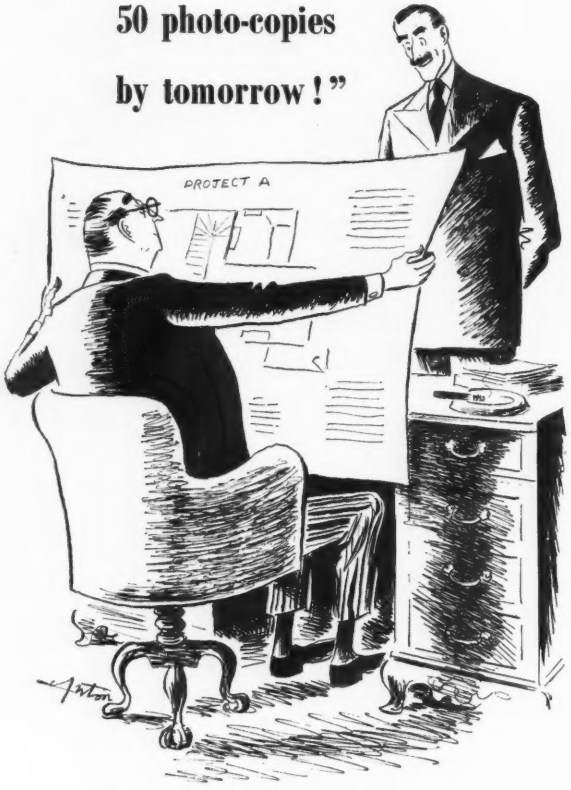

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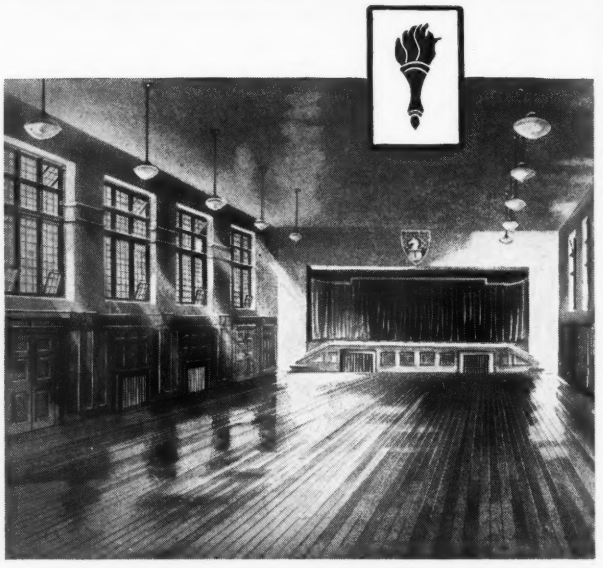

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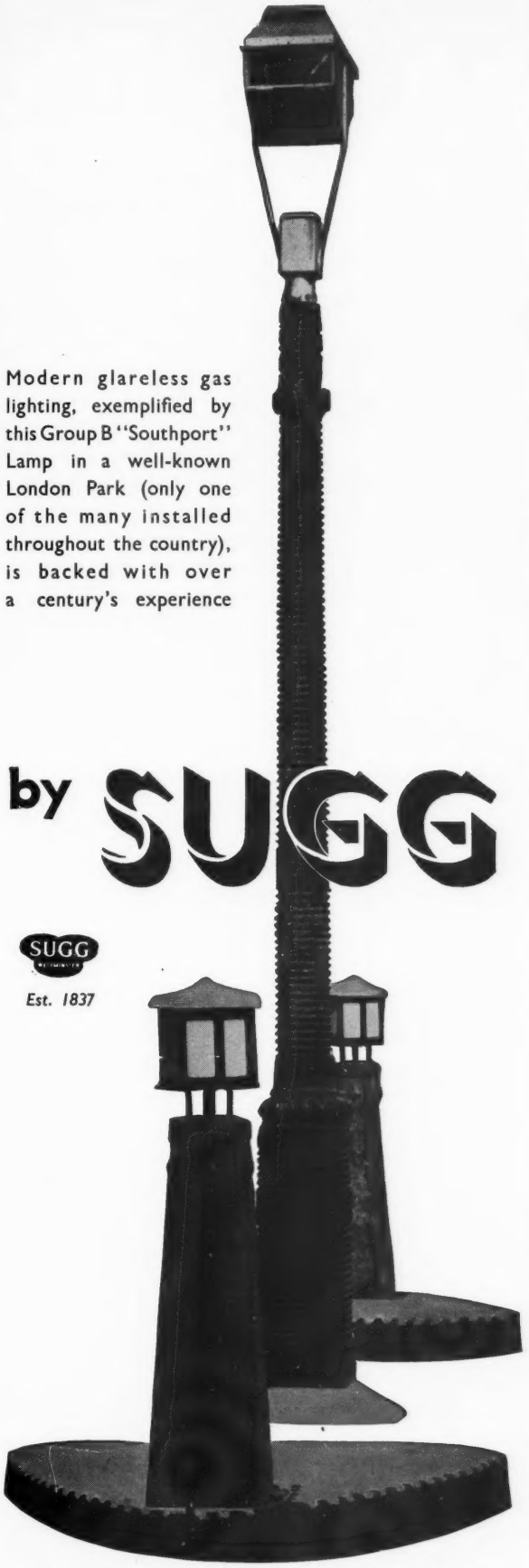

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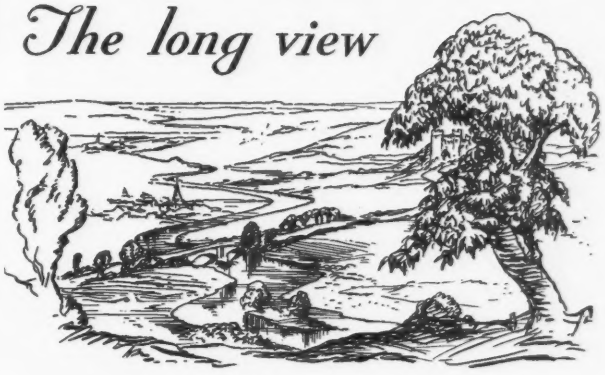

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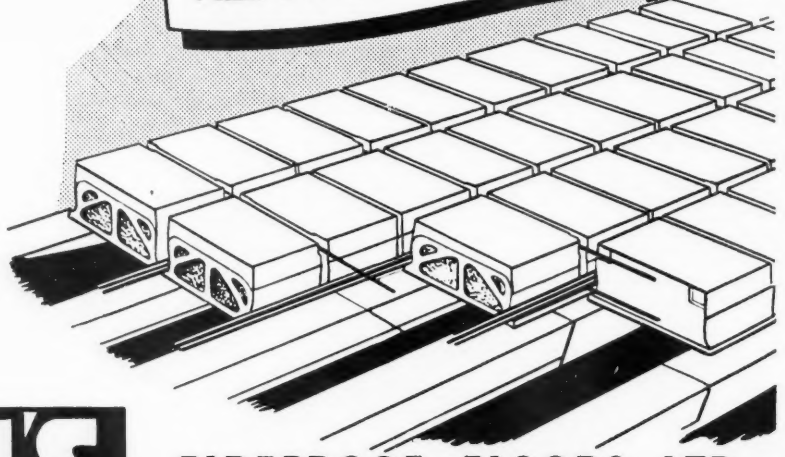

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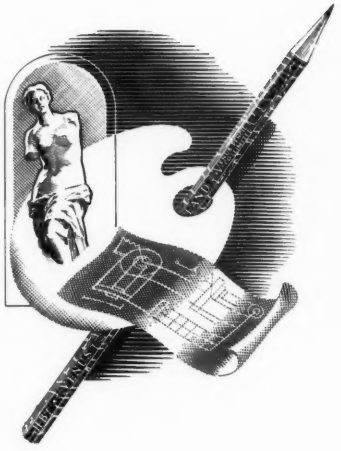

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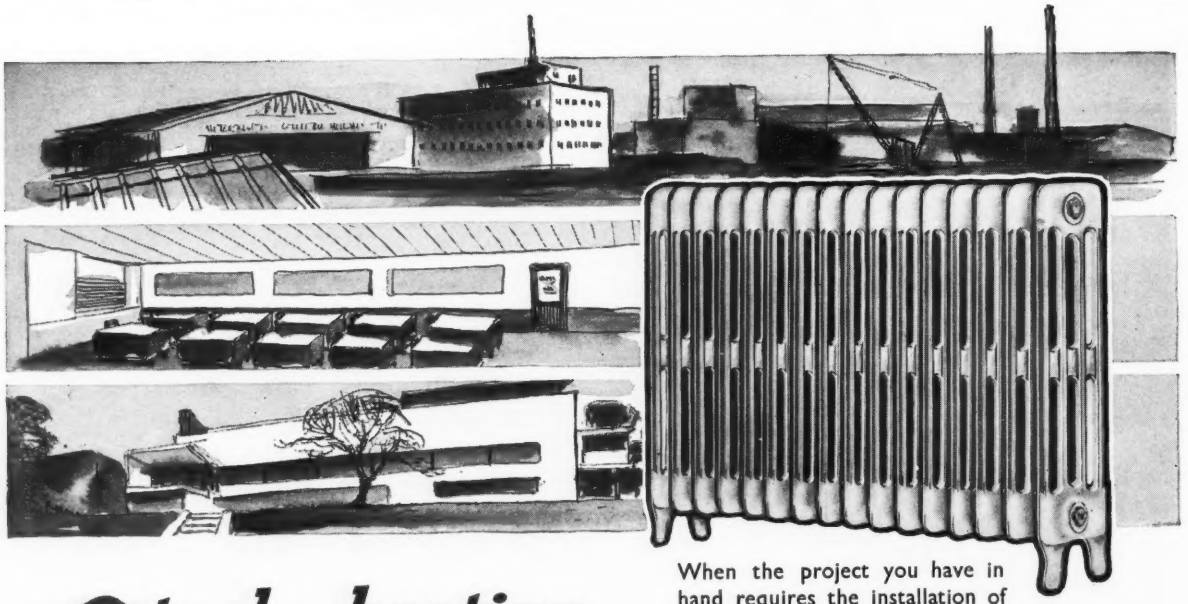

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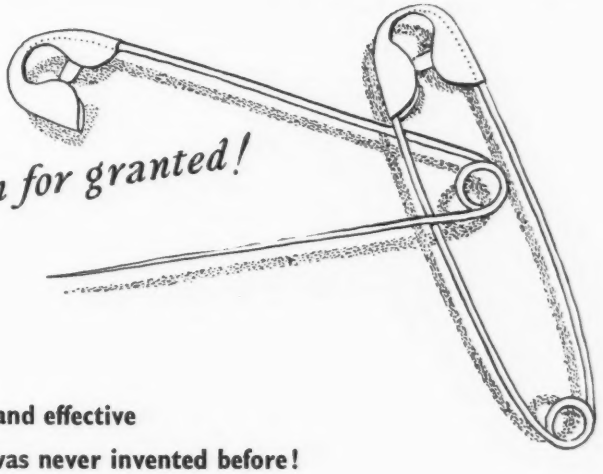

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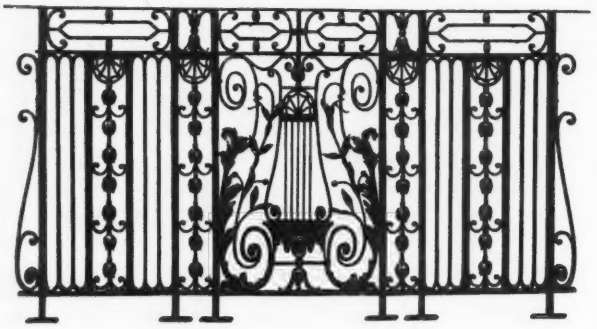

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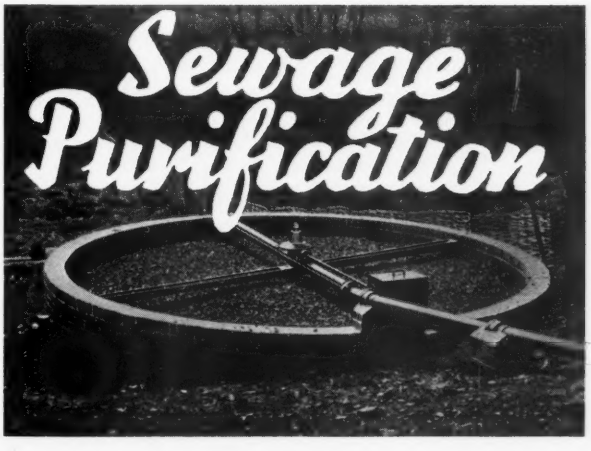

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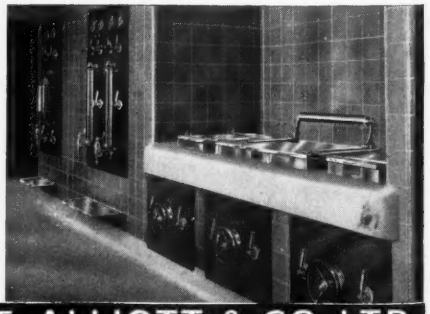

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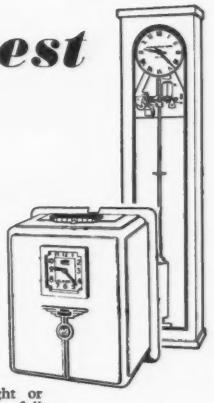

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